

PATENT ABSTRACTS OF JAPAN

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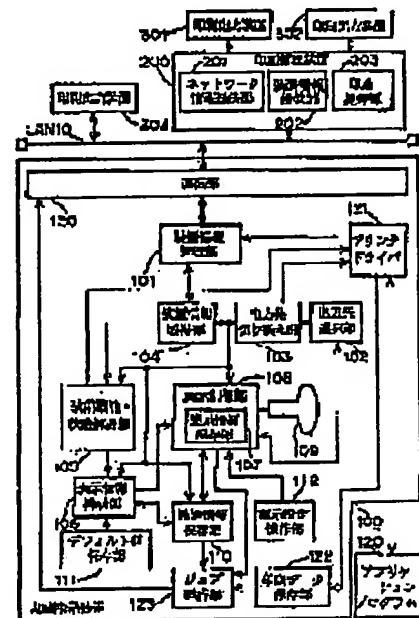
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(54) PRINTING INSTRUCTION DEVICE

(57)Abstract

PROBLEM TO BE SOLVED: To switch and use one of plural printing output devices connected to a communication network by simple operation.

SOLUTION: A device information managing part 101 manages respective device information of plural printing output devices connected to the communication network. The device information of a printing output device selected by an output destination selecting part 102 is acquired from the managing part 101 and the display information of a printing instruction operation panel corresponding to the selected printing output device is generated by a display information generating part 104 to 106. A printer driver 121 is switched based upon the selection of the output destination selecting part and printing data are covered into printing data for the selected printing output device. A job issuing part 123 issues a printing job including printing instruction information set up through the operation panel and the printing data to the selected printing output device based upon a user's printing request.



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CLAIMS

[Claim(s)]

[Claim 1]A printing indicating device which performs printing directions through a display screen to a printout device which it was connected to a communication network and chosen from two or more printout means on said communication network, comprising:

A device information control means which manages each device information on two or more printout devices on said communication network.

An output destination change selecting means which chooses from among printout devices on said communication network a printout device made into the printout point.

A display information generation means which generates display information on a printing instructing operation panel for acquiring device information on a printout device chosen from said device information control means as said output destination change based on selection by said output destination change selecting means, and setting up printing directions information over the printout device concerned.

Based on selection by displaying means provided with said display screen, and said output destination change selecting means, A display control means which displays said printing instructing operation panel generated by said display information generation means on a display screen of said displaying means, and receives setting out of said printing directions information, It has a print-data treating part which processes print data so that it may correspond to each of two or more printout devices on said communication network, Print data and said printing directions information over said set-up selected printout device from a print-data processing means to process print data based on selection by said output destination change selecting means by a print-data treating part corresponding to said selected printout device, and said print-data processing means.

[Claim 2]Said print-data processing means is provided with a print-data treating part

corresponding to two or more printout devices of a different kind, The printing indicating device according to claim 1 switching to a print-data treating part corresponding to said selected printout device based on selection by said output destination change selecting means, and processing print data.

[Claim 3]Based on selection by said output destination change selecting means, said display information generation means, An analysis means to analyze a function of said device information on a printout device selected as said output destination change acquired from said device information control means is included, The printing indicating device according to claim 1 or 2 generating display information on said printing instructing operation panel including a display given impossible [use] about an item of a function of that it cannot be used with said selected printout device based on an analysis result of said analysis means.

[Claim 4]Via said communication network, said device information control means acquired, have managed it, and an identifier of two or more printout devices on said communication network said output destination change selecting means, The printing indicating device according to claim 1 or 2 choosing a printout device as said printout point by said identifier.

[Claim 5]The printing indicating device according to claim 1 or 2, wherein said device information control means acquires device information on two or more printout devices on the communication network concerned via said communication network.

[Claim 6]A setup information preserving means which saves printing directions information set up through said display control means is established, The printing indicating device according to claim 1 or 2 performing setting out of said printing directions information over a printout device with said selected output destination change selecting means based on printing directions information saved at said setup information preserving means.

[Claim 7]A setup information preserving means which saves printing directions information set up through said display control means, As opposed to a setting-out item which establishes a standard information preserving means which saves standard information of a setting-out item which constitutes said each printing directions information, and does not have printing directions information in said setup information preserving means, The printing indicating device according to claim 1 or 2 setting up based on standard information of said standard information preserving means.

[Claim 8]Said device information including information about a function of pretreatment of said printout device of a printing job, and/or post-processing said display information generation means, A display which it gives usable for said function when a printout device selected by said output destination change selecting means is provided with a function of said pretreatment and/or post-processing, The printing indicating device according to claim 1 or 2 generating display information on a printing instructing operation panel which includes a display which makes said function impossible [use] when it does not have a function of said

pretreatment and/or post-processing, respectively.

[Claim 9]A printing indicating device which performs printing directions through an operation screen of a display to a printout device selected from two or more printout devices in which an output of information characterized by comprising the following on a self-device is possible.

A device information acquisition means which acquires device information on said two or more printout devices.

Device information on said selected printout device is acquired from this device information acquisition means, Inside of two or more display items for said printing directions in a standard operation screen beforehand prepared based on the acquired device information, A means to generate an operation screen changed with a display mode of a display item about a function provided with a display mode of a display item about a function with which said selected printout device is not provided.

[Claim 10]A printing indicating device provided with a means to generate said standard operation screen which has a display item required for printing directions of said printout device in the printing indicating device according to claim 9 based on device information on said two or more printout devices acquired by said device information acquisition means.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]In the distributed type network printing system by which the printout device (a copy is included in printing and a copying machine besides a printer etc. is included in a printout device on these specifications) of plurality [invention / this] for example, was connected to the communication network, It is related with the printing indicating device used when switching and using said two or more printout devices.

[0002]

[Description of the Prior Art]In a distributed type network printing system, from printing indicating devices, such as one computer. The printing directions setting-out item which can be set up for the selection operation of printout devices, such as a copying machine and a printer, and the printing demand to the printout device (for example, it and) [paper-size-] Setting out of magnifying power/reduction percentage, one side / double-sided specification and setting out of print copies, setting out of use/non-use of an option function, etc. are set up, and when choosing, switching and using a printout device out of two or more printout devices connected to the network, some methods are performed conventionally.

[0003]The 1st conventional example switches the printer driver formed for every printer, when choosing one of two or more of the printers connected to the network and giving it printing directions.

[0004]Namely, as shown, for example in drawing 40, it corresponds to each of the n printers (n is two or more natural numbers) P1, the printer P2, --, the printer Pn, The printer driver Dn is formed, and it constitutes so that printing directions setup information and printer information, such as the printer driver D1, the printer driver D2, --, document information that should be printed, may be sent to the printers P1-Pn respectively through the means of communication C1-Cn from each printer driver. In this case, each of the printer drivers D1-Dn, The printing

directions setting-out item is displayed as a display window for printing directions setting out, and it has the display processing parts W1-Wn which receive setting out of the printing directions setting-out item from a user, and print-data treating part F1 - Fn which process the printer information which should be sent to each printer.

[0005]And a user identifies and chooses the printer driver corresponding to the printer to use, when it is going to choose and use one of the printer P1 - the printers Pn. Then, since the selected printer driver displays the setting operation panel screen of a printing directions setting-out item using the display processing part W, a user directs execution of a print job, after setting up the aforementioned printing directions setting-out item on the setting operation panel screen. A print job consists of printing directions information and print data including the setup information of said printing directions setting-out item. In the following explanation, also when only calling it a "job", the print job is meant.

[0006]When the execution instruction of this print job is received, a printer driver, Change the printer information which was given to this and which should be printed into the print data which suit the format of the printer corresponding to this printer driver by that print-data treating part F, and with the information on the aforementioned printing directions setting-out item. Via the means of communication C1, the means of communication C2, --, the thing to which it corresponds of the means of communication Cn, respectively, It is sent to the printer P1, the printer P2, --, the thing to which it corresponds of the printers Pn (refer to Microsoft Windows Ver.3.1 Operating System functional guide Chapter 5).

[0007]When setting up the button icon corresponding to each of two or more printers connected to the network and choosing one printer, the 2nd conventional example, The window of the printer option to the printer is opened, and it is made to perform setting out of various printing directions setting-out items, and printout directions by directing a corresponding button icon.

[0008]When carrying out output instruction to the copying machine which is connected to a network and is in remoteness as the 3rd conventional example, guidance is interactively exchanged with a user, each duplication function is set up, and there is also a thing of carrying out output instruction to the last (refer to JP,6-34498,B).

[0009]In a copying machine, from the former, for example JP,1-246572,A, What is called finishing treatment, such as a stapler stop, can be performed as post-processing of a copy as shown in JP,2-331059,A, JP,3-151292,A, JP,5-323703,A, JP,6-89055,A, etc.

[0010]

[Problem(s) to be Solved by the Invention]In the case of the 1st conventional example mentioned above, a printer driver, When the equipment functions of the corresponding printer are held fixed and it is going to change the printout point, It must check whether the printer which it is going to choose has actually equipped the equipment functions which a user wants

to use, and a user has to identify and switch the printer driver corresponding to the printer.

[0011]And in order to use the printer connected to the network. The printer driver software of all the printers used beforehand is installed in the computer, It is very inconvenient to use specifying the printer used from a window screen, switching a printer driver, and switching two or more printers from one personal computer, in order to use.

[0012]It was not able to output to a simultaneously different printer. Since this is always related to the notice, network driver, and network cue (spool) using this of the change to application, it depends on it not having been it easy to switch a printer driver. For this reason, two or more printer drivers were not able to be performed simultaneously.

[0013]If it is going to change the printout point, it is necessary to close the window of change of an output destination change. Therefore, all the information set up till then will be reset and there was a usage hard that the information that it is the same again after output destination change change had to be reinputted.

[0014]In the case of the 2nd conventional example, information, including the equipment functions of a printer, etc., is only once acquired, when opening the window of a printer option, and to it, it cannot acquire the information on the equipment functions of a printer from the state which opened the printer option in the window. After specifying the printout point, an output destination change cannot be changed, but a printing indication procedure is canceled and the reinput and re set which perform the printing indication procedure to the printer after change are once needed from the start.

[0015]Since the function of the copying machine of the output destination change which exchanges guidance with a user interactively in the case of the 3rd conventional example, performs duplication function setting out, and is in remoteness cannot be looked through, It was dramatically inconvenient when choosing the copying machine which has a function which whether what we can do with a printout cannot grasp as not progressing to the last of setting out, but it needs.

[0016]When a user performed finishing treatment to printed matter conventionally, in what was indicated in said gazette, the printed manuscript once had to be brought to the copying machine, the manuscript had to be set to the copying machine, finishing treatment had to be specified, and copy processing had to be carried out.

[0017]This invention can use two or more printout devices connected to the communication network by easy switching operation in view of the above point, It aims at providing the printing indicating device which each printout device has, for example, enabled it to also use equipment functions, such as finishing treatment, effectively from remoteness.

[0018]An object of this invention is to provide the printing indicating device which enables it to perform printing directions by the easiest possible setting operation to two or more printout devices connected to the network.

[0019]

[Means for Solving the Problem] If a printing indicating device by invention of claim 1 makes a reference mark of a functional block of an example of below-mentioned drawing 1 correspond, It is a printing indicating device which performs printing directions through a display screen to a printout device which it was connected to a communication network (10) and chosen from two or more printout devices (301-303) on said communication network, A device information control means (101) which manages each device information on two or more printout devices on said communication network, An output destination change selecting means (102) which chooses one of printout devices on said communication network as the printout point, Based on selection by said output destination change selecting means, device information on a printout device chosen from said device information control means as said output destination change is acquired, A display information generation means (104, 105, 106) which generates display information on a printing instructing operation panel for setting up printing directions information over the printout device concerned, A displaying means (109) provided with said display screen, and a display control means (108) which displays said printing instructing operation panel generated by said display information generation means on a display screen of said displaying means based on selection by said output destination change selecting means, and receives setting out of said printing directions information, It has a print-data treating part which processes print data so that it may correspond to each of two or more printout devices on said communication network, A print-data processing means (printer driver 121 of drawing 1) to process print data based on selection by said output destination change selecting means by a print-data treating part corresponding to said selected printout device, It has a job issuing means (123) which publishes a print job including print data and said printing directions information over said set-up selected printout device from said print-data processing means to said selected printout device.

[0020] In a printing indicating device by the invention according to claim 2, Said print-data processing means of claim 1 is provided with a print-data treating part corresponding to two or more printout devices of a different kind, it switches to a print-data treating part corresponding to said selected printout device based on selection by said output destination change selecting means, and print data are processed.

[0021] In a printing indicating device by the invention according to claim 3, Said display information generation means of claim 1 or claim 2, Based on selection by said output destination change selecting means (102), an analysis means (105) to analyze a function of said device information on a printout device selected as said output destination change acquired from said device information control means (101) is included, Based on an analysis result of said analysis means, display information on said printing instructing operation panel including a display given impossible [use] is generated about an item of a function of that it

cannot be used with said selected printout device.

[0022]In a printing indicating device by the invention according to claim 4, Said device information control means (101) of claim 1 or claim 2, An identifier of two or more printout devices on said communication network is acquired and managed via said communication network, and said output destination change selecting means (102) chooses a printout device as said printout point by said identifier.

[0023]In a printing indicating device by the invention according to claim 5, a device information control means (101) of claim 1 or claim 2 acquires device information on two or more printout devices on the communication network concerned via said communication network.

[0024]A printing indicating device by the invention according to claim 6, In addition to constituent features of claim 1 or claim 2, it has a setup information preserving means (110) which saves printing directions information set up through said display control means, Setting out of said printing directions information over a printout device with said selected output destination change selecting means (102) is performed based on printing directions information saved at said setup information preserving means (110).

[0025]A printing indicating device by the invention according to claim 7, To constituent features of claim 1 or claim 2, in addition, a setup information preserving means (110) which saves printing directions information set up through said display control means, It has a standard information preserving means (default value preserving means 111 of drawing 1) which saves standard information of a setting-out item which constitutes said each printing directions information, Based on standard information of said standard information preserving means, it was made to set to a setting-out item without printing directions information as said setup information preserving means (110).

[0026]A printing indicating device by the invention according to claim 8, In claim 1 or claim 2, said device information, Including information about a function of pretreatment of said printout device of a printing job, and/or post-processing, said display information generation means, A display which it gives usable for said function when a printout device selected by said output destination change selecting means is provided with a function of said pretreatment and/or post-processing, Display information on a printing instructing operation panel which includes a display given impossible [use of said function] when it does not have a function of said pretreatment and/or post-processing, respectively is generated.

[0027]A printing indicating device by the invention according to claim 9, It is a printing indicating device which performs printing directions through an operation screen of a display to a printout device selected from two or more printout devices in which an output of information on a self-device is possible, A device information acquisition means which said printout device is connected and acquires device information on this connected printout device, Device information on said selected printout device is acquired from this device information acquisition

means, Inside of two or more display items for said printing directions in a standard operation screen beforehand prepared based on the acquired device information, With a display mode of a display item about a function provided with a display mode of a display item about a function with which said selected printout device is not provided, it has a means to generate a changed operation screen, and operation using a common operation screen is enabled to each printout device.

[0028]A printing indicating device by the invention according to claim 10, requirements for the invention according to claim 9 -- in addition, based on device information on said connected printout device which was acquired by said device information acquisition means, it has a means to generate said standard operation screen which has a display item required for printing directions of said connected printout device

[0029]

[Function]In the printing indicating device of claim 1, when the printout point is chosen from among two or more printout devices by an output destination change selecting means, based on the selection a display information generation means, The device information on the printout device chosen from the device information control means is acquired, equipment functions are analyzed, the display information on a printing instructing operation panel is generated, the printing instructing operation panel is displayed on the display screen of a displaying means through a display control means, and it will be in the state waiting for a setting input of a printing directions setting-out item. A user performs the setting input of a printing directions setting-out item in this printing instructing operation panel.

[0030]And based on selection of the user in an output destination change selecting means, in a print-data processing means, print data are processed so that it may become a thing corresponding to the selected printout device. And if printing request designation is performed by the user, the print job containing the printing directions information set up through said printing instructing operation panel and the print data from said print-data processing means will be published by him towards the printout device chosen from the job issuing means.

[0031]Namely, a user is an output destination change selecting means, chooses the printout device of hope from among two or more printout devices on a network, and only performs a predetermined setting input and printing instruction request operation through a printing instructing operation panel, Two or more printout devices on a network can be switched easily, and can be used.

[0032]The printing indicating device of claim 2 is taking into consideration the case where several printout devices with which kinds differ on a network are connected. That is, from the inside of two or more print-data treating parts corresponding to two or more printout devices of a different kind, a print-data processing means is switched to the print-data treating part corresponding to a printout device with the selected user, and processes print data. Therefore,

also when two or more printout devices with which kinds differ exist on a network, two or more of those printout devices can be switched easily, and can be used.

[0033]In the printing indicating device of claim 3, by a display information generation means, the equipment functions of the selected printout device are analyzed by an analysis means, and the display information on the printing directions setting-out item based on the function which the selected printout device equips is generated according to the analysis result. At this time, the display information made impossible [use] is generated by a display information generation means about the printing directions setting-out item relevant to the function which the selected printout device does not equip. Or it does not display that printing directions setting-out item, that printing directions setting-out item is displayed as a shade (it displays thinly), and preventing from choosing the item of a shade etc. is performed, and it is made not to be set up in the function which is not equipped as display information made impossible [this use], for example.

[0034]In the printing indicating device according to claim 4, it is an output destination change selecting means, and if the identifier of a printout device to use is directed out of two or more printout devices on a network, the printing instructing operation panel for the printout devices is generated and displayed, and printing directions can be performed like ****. That is, it becomes possible as the printout point to choose and use printout equipping [which he wishes from the inside of two or more printout devices on a network] by directing the identifier of a printout device.

[0035]In the printing indicating device according to claim 5, device information required for printing directions is collected by the device information control means via a communication network. Therefore, the time and effort of a user detecting the equipment functions of the printout device on a network, and registering with a device information control means is unnecessary.

[0036]In the printing indicating device by the invention according to claim 6, first stage setting out of each setting-out item of the printing directions information over the selected printout device is performed by the setup information saved at the setup information preserving means. That is, since the last setup information is used effectively, for example and a printing directions setting-out item is set up, a user's setting operation is simplified.

[0037]In the printing indicating device by the invention according to claim 7, further, about the information on the setting-out item which is not saved as setup information at a setup information preserving means, the standard information saved at the standard information preserving means is set up in first stage, and a user's setting operation is simplified.

[0038]In the display screen top of the printing indicating device which the user uses in the invention according to claim 8, When the printout device on the selected network can check whether the finishing treatment as post-processing of printing is possible, for example and has

a finishing treatment function, the finishing treatment function concerned becomes usable from a remote position.

[0039]About the display item about the function with which the selected printout device is not provided out of the display item of the standard operation screen prepared beforehand in the invention according to claim 9. With the display item about a function provided with the display mode, since it was made to change, the user can perform operator guidance using a common operation screen to each printout device fundamentally.

[0040]Since the device information on each printout device connected to the printing indicating device concerned is acquired and the standard operation screen in the invention of claim 9 is generated in the invention according to claim 10 based on the acquired device information, It becomes unnecessary beforehand, to set up a standard operation screen based on the equipment functions of the printout device connected to a printing indicating device.

[0041]

[Embodiment of the Invention]First, the outline of the whole information processing system in which the printing indicating device by this invention was applied is explained with the outline of the embodiment of the printing indicating device by this invention.

[0042]Drawing 2 shows the example of composition of the whole information processing system of this example, and on LAN10 as a communication network, distributed connection of two or more printout devices is made, and it is arranged. As mentioned above, not only a printer but a copying machine and a facsimile machine with a duplication function can constitute a printout device.

[0043]In the example of drawing 2, two or more end system A-D is distributed on LAN10. The end system A comprises two sets of the printers 12a and 12b as a printout device with the computer 11A, respectively. This end system A is provided with the display 16 and the mouse 17 as an example of the pointing device which performs input directions through that display screen. This end system A also has a function as a printing job execution part, and a function as a printing indicating device.

[0044]The end system B is constituted by the computer 11B, and the copying machine 13 or the copying machine 14 which constitutes the printout device, respectively. This end system B is provided with the display 16 and the mouse 17, and, as for the computer 11B, also has a function as a printing indicating device. This end system B also has a function as a printing job execution part, and a function as the input part of the paper manuscript as printing job data, and an input part of an electronic copy.

[0045]The end system C comprises the computer 11C, has the display 16 and the mouse 17, and is provided with the function as a printing indicating device, and it is provided with the function as an input part of an electronic copy.

[0046]The end system D comprises the computer 11D and the scanner 15, and has the display

16 and the mouse 17. This end system D is provided with the function as a printing indicating device, and it achieves the function as an input part of a paper manuscript with the scanner 15.

[0047]Also in which end system, the computer can also consist of drawing 2 as a form that the computer was built in these each apparatus 12-15, although constituted from the printers 12a and 12b, the copying machines 13 and 14, the scanner 15, and separated form.

[0048]And in the case of this example, especially the computer 11A of the end system A, The identifier and device information on all the printout devices (the printers 12a and 12b connected to network LAN10 via the computer 11A are included) which are distributed on LAN10, The function as a printing management apparatus to manage other information synthetically. It has (it is hereafter called a printing management apparatus function part), and it is constituted so that the information which acquired and these-acquired identifier information, device information, etc. from all the printout devices can be provided to all the printing indicating devices on LAN10 of a network.

[0049]In the case of this example, device information includes job information including the number of jobs and job processing state in each printout device, the information on the equipment functions (capability of a printout device) of the printout device concerned, the information on device statuses, such as failure of a printout device and a toner piece, etc. The printing management apparatus function part has managed this device information in the state where correspondence can be taken with each printout device, respectively. Depending on the case, the identifier of a printout device may also be included in device information.

[0050]And from the end system provided with a printout device, it has the function to tell the identifier of the printout device, equipment-functions information, state information, and job information to a printing management apparatus function part.

[0051]Since two sets of the printers 12a and 12b are connected to the computer 11A in this case, the aforementioned various information is easily acquirable from these printers 12a and 12b. However, to the computer 11A directly, Since only the information decided with the copying machine 13 which are other printout devices which are not connected, or the communications protocol corresponding to these devices in the case of 14 can be dealt with, the communication interface for performing communication with these devices if needed is provided in the end system A.

[0052]He is trying to absorb the difference in the communications protocol between a printing indicating device and a printout device by once receiving all by this printing management apparatus function part also about the printing demand accompanied by the print data from the function part of a printing indicating device. That is, a printing indicating device to a printing management apparatus function part. It communicates with the same communications protocol altogether, and the printing demand to other printout devices with which communications

protocols differ is passed to the printout device which a printing management apparatus function part judges it, changes it into the suiting communications protocol, and targets it. Therefore, the user can perform printing directions setting out and a printing demand, without being conscious of the difference in a communications protocol.

[0053]The identifier information of a printout device is an identifier for discriminating each printout device from others. The printing management apparatus function part recognizes the network address and location (locating position) on LAN10 of each printout device corresponding to this identifier. As an identifier of this printout device, the specific name given by the model name and user of the printout device concerned may be sufficient. As long as two or more printout devices distributed on LAN10 are discriminable, it may be the number etc. which were given to the printout device. As for the identifier of a printout device, printout device names, such as a printer name, are used in this example.

[0054]When it is connected to LAN10, the information on the identifier of this printout device is notified to the computer 11A of the end system A, and is registered into that printing management apparatus function part. Or the printing management apparatus function part of the computer 11A of the end system A asks the identifier of each printout device to the end system containing each printout device, and it may be made to acquire it.

[0055]In the case of this example, job information consists of a job identifier, the identifier of print data, an identifier of the printout device which is an output destination change of that job, and a processing state. A job identifier is the number etc. which were given to the job, for example, and the identifier of print data is a file name etc.

[0056]In the case of this example, the processing states of a job are "normal termination", "abnormal termination", "under printing", "printing waiting", "a printing stop (cancellation)", etc.

[0057]The job identifier of the job information, the identifier of print data, and the identifier of a printout device are information given to the job, when a job is published from a printing indicating device. Each printout device receives the oneselves-oriented job accompanied by these identifiers, and the processing state of each job is managed, and each job is performed, for example in order of a receipt. The initial processing state of a job serves as "waiting for printing", for example.

[0058]And a printout device notifies the job information about all those jobs to a printing management apparatus function part, for example, when at least one processing state changes about a job. A printing management apparatus function part will update the job information of a corresponding printout device to a new thing, if this notice is received, and it transmits the updated information to all the printing indicating devices. A printing indicating device recognizes the unsettled number of jobs as load of the printout device from job information now.

[0059]When the processing state of a job changes, the information sent to a printing

management apparatus function part from a printout device is the printing management apparatus function part itself, and it may be made to update the job information about the job to which a corresponding printout device corresponds only as the information concerned about a job that it changed. It supposes that it is also the information about the job transmitted to a printing indicating device from a printing management apparatus function part only about the job which changed similarly, the new information acquired with the printing indicating device is identified, and it may be made to make it update only the information part.

[0060]The information on the equipment functions of a printout device is information about the field specification function of single side printing/double-side printing, expansion/reduction function, the function preselection capability of a paper size, the kind of the sorter which can be equipped as an option, a stack, and finishing treatment, etc.

[0061]The state information of a printout device includes waiting, printing completion, etc. during printing, the condition of use of the printout device concerned, i.e., the state which can be worked, besides the state about equipment functions, such as a paper jam, a slip of paper, slip-of-paper warning, door opening, a toner piece, toner piece warning, and failure of hardware.

[0062]In first stage, like the identifier information of each printout device, the device information on an above printout device is notified to the printing management apparatus function part of the computer 11A from each printout device, when each printout device is connected to LAN10. As mentioned above, when there is an option function which can be added later in a printout device, the option function is added and the option function is added, the additional function is notified to the printing management apparatus function part of the computer 11A.

[0063]Similarly, the state information of a printout device notifies the information on the newest state to a printing management apparatus function part each time, when states, such as the above-mentioned paper jam, occur or condition of use changes from each printout device.

[0064]Of course, although a printing management apparatus function part asks suitably each printout device, for example through LAN10 with a constant period and can acquire device information including these additional functions, In order to use the added function effectively immediately, or to grasp change and the job processing state of a device status without delay and to aim at effective use of a printout device, There is no timing gap of the direction notified from each printout device like this example, and a printing management apparatus function part can be certainly told about device information.

[0065]And the printing management apparatus function part of the computer 11A provides the identifier information of each acquired printout device, device information, and state information again to the function part (henceforth a printing indicating device function part) of the printing indicating device of an end system.

[0066]That is, the printing indicating device function part of each end system is a constant

period, or is proper timing, and advances the acquisition request of the above-mentioned identifier information and device information to a printing management apparatus function part. A printing management apparatus function part sends the identifier information and the device information on all the printout devices through LAN10 to a printing indicating device function part with a demand to this demand.

[0067]From each printout device, when the information on the newest state has been notified at the time of generating of states, such as the above-mentioned paper jam, and change of condition of use, again a printing management apparatus function part, This is acquired, and the information on the state is transmitted and notified to all the printing indicating device function parts at the time. That is, the notice of warning generating or change of a device status is promptly told from a printing management apparatus function part to a printing indicating device.

[0068]Therefore, the printing indicating device function part of each end system holds and manages the management information same also as itself as a printing management apparatus function part, i.e., the identifier information of all the printout devices distributed on communication network LAN10, and device information.

[0069]And in each printing indicating device function part a user, A printout device to use out of two or more printout devices distributed on LAN10 is chosen, various printing directions setting-out items about the selected printout device are set up, and it is made to perform printing directions.

[0070]In order to be able to perform easily change of a printout device, and setting out of a printing directions setting-out item in the case of these printing directions, in the printing indicating device function part concerned. Create and display the operator guidance panel for setting up the printing directions setting-out item about the selected printout device from the print management information of a printing indicating device function part itself [the], and receive a user's setup instruction, and. It is made to switch by choosing automatically the printer driver corresponding to the selected printout device.

[0071]And when a printout device is switched, it is made to perform initial setting automatically using former setup information. Namely, the inside of the printing directions setting-out item about the selected printout device, The setup information about the equipment in which the setup information about the printing directions setting-out item of the before selected already printout device exists, Are the setup information about the equipment which uses the previous setting out as it is, and does not exist in front setup information, and the thing in which input setting is impossible is changed into un-setting up or a suitable established state, It is equipment functions which are not in last time, and the thing in which a setting input is possible sets up automatically the default standard value currently prepared beforehand.

[0072]A printing indicating device also displays the state information of two or more printout

devices on LAN10, and the user enables it to perform selection of a printout device and suitable directions, and processing from presenting of this state information.

[0073]Unlike what was shown by drawing 40, the printer driver (software) carried in the printing indicating device function part of this example should just have a print-data processing capability which changes into the thing for printout devices which display processing for printing directions setting-out item setting out was unnecessary, and chose print data. That is, in order to change each printing indicating device function part into the print data which suit all the printout devices which exist on network LAN10, it has two or more print-data processing capabilities.

This print-data processing capability is automatically switched according to a user's printout device selector.

[0074]But since the print-data processing capability (software) can be used in common if the print data of two or more printout devices on a network are the things as which the thing of the same data format may be sufficient, The software which must be prepared as a print-data processing capability may be below the number of the printout devices which exist on a network, and becomes a thing according to the number of the printout devices with which kinds differ.

[0075]It seems that it is shown in drawing 3 when the outline of change processing of the printout point by the printing indicating device function part in this case is explained in comparison with the conventional example of drawing 40. Namely, as shown in drawing 3, the printing indicating device function part 20, Have the common user interface part 21 which can switch and indicate all of each printing instructing operation panel of the printers P1-Pn as an example of two or more printout devices, and. It has each printer P1 - the print-data treating part 22a for Pn, and the printer driver section 22 required except the matter displayed in the common user interface part 21 that possesses the display processing part 22b in part.

[0076]From the printers P1-Pn, the common user interface part 21 acquires the identifier, device information, and state information via the means of communication 23, and displays one navigational panel for printers of them with directions of an identifier list and a user.

[0077]And by the printing indicating device function part 20, an identifier list is displayed, and if the printer which a user wants to use is chosen, for example by the identifier, the common user interface 21 will display the selected operator guidance panel for printers on a display. In this case, according to the selection operation of a user's printer, the printer driver section 22 as a print-data processing means switches the print-data treating part 22a so that that selected printer may be suited.

[0078]Then, the printing directions information set up through the common user interface part 21 as a print job when the user advanced the printout demand, The print data for printers

chosen from the printer driver section 22 are transmitted to the printer with which it was chosen of the printers P1-Pn through the means of communication 23. By the receptionist part of the print data which suited the self format, the selected printer receives a print job including these print data and printing directions information, and performs the job concerned.

[0079]Namely, what is necessary is for a user to choose a printout device to use, to set up the directions setting-out item for a printing demand, and just to carry out a printing demand by issue of a print job, and like before, A user does not need to identify the printer driver corresponding to a printout device to choose, and it is not necessary to switch a printing instructing operation panel and a print-data treating part.

[0080]As a print processor function part in the information processing system explained above, one embodiment of the printing indicating device by this invention is applied. Next, the printing indicating device by this invention is explained more to details about one embodiment at the time of applying to the printing indicating device function part of an information processing system which was mentioned above.

[0081]Drawing 1 shows the functional block diagram of the information processing system component part mentioned above centering on the printing indicating device in this case. Hereafter, suppose that the embodiment of this printing indicating device is described, referring to the functional block diagram of this drawing 1.

[0082]In drawing 1, 100 is a printing indicating device, 200 is a printing management apparatus, and these are connected to LAN10 of a communication network, as mentioned above. In this example, the printout devices 301 and 302 are connected to the printing management apparatus 200, and the printout device 303 is directly connected to LAN10. Here, also when the printout device is connected via the computer as being connected directly, it contains.

[0083]The printing indicating device 100 corresponds to the printing indicating device function part of each end system of drawing 2, and the printing management apparatus 200 corresponds to the printing management apparatus function part of the computer 11A of the end system A of drawing 2. The printout devices 301 and 302 correspond to two sets of the printers 12a and 12b of drawing 2, and the printout device 303 corresponds to an end system provided with the copying machine 13 or 14.

[0084]The printing management apparatus 200 is provided with the network information providing part 201, the device offer-of-information part 202, and the printing job part 203. As mentioned above, this printing management apparatus 200, From the printout device 303 connected to printout device [which are directly connected to this] 301 and 302, and LAN10. Each, and the device information of the identifier information and the newest state information are collected, and the printing indicating device 100 is provided with those information according to the request from the printing indicating device 100.

[0085]Like fault information, such as a toner piece, a paper piece, and a failure occurrence, it has the composition which notifies directly in the printing indicating device from this printing management apparatus 200 about information with urgency. The printing management apparatus 200 receives the print job from the printing indicating device 100, and also has a role delivered to a printout device.

[0086]The network information providing part 201 and the device offer-of-information part 202 provide collection of the information from the above printout devices 301-303, and the information on the printing indicating device 100. That is, the network information providing part 201 collects and holds the information on identifiers, such as a name of the apparatus connected to LAN10, and a model name.

[0087]In the case of the example of drawing 1, said information about the printing management apparatus 200 and the printout devices 301, 302, and 303 is registered by this network information providing part 201.

By the demand from the printing indicating device 100, this network information providing part 201 provides that demanded printing indicating device 100 with the address on the identifier information of these devices, and the network of each printout device, etc.

In the case of this example, a device name (model name) is used as an identifier.

[0088]the device offer-of-information part 202 also mentioned above -- as -- the option information (a sorter.) from the printout devices 301, 302, and 303 HCS (high capacity stack = mass stack), an offset stack (the printed paper which is discharged) the cross direction or longitudinal direction provided in the specified unit -- ** -- a fixed quantity is shifted and paper is delivered, [and] the information (for example, A3, A4, B4, B5, and a letter.) on equipment functions including the kind (for example, bookbinding and a stapler stop) of finishing treatment, etc., or a paper size legal one, MSI (multi sheet inserter), etc. -- etc. -- from -- with the becoming equipment-functions information. Device state information mentioned above, such as a paper jam, a slip of paper, slip-of-paper warning, a toner piece, and failure, Device information including job information and the information about other printout devices and print jobs is acquired, and the printing indicating device 100 is provided with the device information which includes these information by the demand from the printing indicating device 100.

[0089]The printing job part 203 receives the printing demand (print job) including the printing directions information which serves as print data from the printing indicating device 100 from setup information, such as printing form and an operating function, and has a function changed and outputted to the form corresponding to the printing method of the printout device of an output destination change. This printing job part 203 also performs the role which transmits the received print job to the printout device with which communications protocols differ.

[0090]Next, the composition of the printing indicating device 100 is explained.

[0091]The printing indicating device 100, The device Research and Data Processing

Department 101, the output destination change selecting part 102, the output switch portion 103, the device information acquisition section 104, equipment functions and state analyzing parts 105, the display information formation part 106, the display information preserving part 107, the display control part 108, the display (indicator) 109, the setup information preserving part 110, It has the default value preserving part 111, the directions setting operation section 112, the printer driver 121, the print-data preserving part 122, and the job issuing part 123.

[0092]The device Research and Data Processing Department 101 acquires and manages said identifier information and device information through the communications department 130 from the network information providing part 201 of the printing management apparatus 200, and the device offer-of-information part 202, as mentioned above. Therefore, this device Research and Data Processing Department 101 holds the almost same information as the network information providing part 201 of the printing management apparatus 200, and the device offer-of-information part 202 about the above-mentioned information.

[0093]In order to acquire said information, the opportunity which advances a demand from the printing indicating device 100 to the printing management apparatus 200 is every certain time interval, when a user points at the time of the execution start of the printing indicating device 100. The opportunity of this demand sending out can be set up according to the using state of a system.

[0094]Drawing 4 is a flow chart of an example of processing operation with which this device Research and Data Processing Department 101 acquires said device information.

[0095]That is, a timer is set first (Step S101). Next, it is distinguished whether the acquisition request at the time of the execution start of the printing indicating device 100 and the acquisition request by a user's directions occur (Step S102).

[0096]It distinguishes whether when these acquisition requests could not be found, timer time turned into the fixed time T defined beforehand (Step S103), and if timer time is less than the fixed time T, it will return to Step S102. When timer time turns into the fixed time T, processing of acquisition of device information etc. is performed (Step S104).

[0097]At Step S102, when it is judged that said acquisition request occurs, it flies to Step S104 immediately, and processing of acquisition of device information etc. is performed. After Step S104 returns to Step S101, resets a timer, repeats above-mentioned processing, and performs it.

[0098]The output destination change selecting part 102 commits the printout point, when specification is performed and a user makes a change. Namely, when there are specification/a change request of the printout point by a user, this output destination change selecting part 102, Issue directions of acquisition of identifier information and device information to the device Research and Data Processing Department 101, and. Extraction of the device name according to the device information acquisition section 104 to the output destination change switch

portion 103 and device information, And the list list of identifiers of all the printout devices on LAN10 by equipment functions and the state analyzing parts 105, and the display information formation part 106, The list list of identifiers of the printout device beforehand chosen from among two or more printout devices on LAN10, and in the case of this example, or generation of a device name list list, It is made to display a device name list on the screen of the display 109 by the display control part 108 based on the display control part 108 which points to creation and mentions the indicative data of the list list later.

[0099]The user can select beforehand a thing to use for of two or more printout devices on LAN10 by deleting and adding a printout device in the window of a device name list.

[0100]And by the list list of this window, if a user does selection instructing of the one printout device, Since the information on the device name of a printout device with the user's selected selection operation is sent to the output destination change selecting part 102 from the display control part 108, the output destination change selecting part 102 switches with the information on the selected device name concerned, and notifies directions to the output destination change switch portion 103.

[0101]Drawing 5 is a flow chart showing the above-mentioned processing operation centering on this output destination change selecting part 102. That is, the output destination change selecting part 102 issues directions of acquisition of identifier information and device information to the device Research and Data Processing Department 101 first according to specification or the change input of the printout point (Step S111). [of a user]

[0102]Next, since the output destination change switch portion 103 issues directions which were mentioned above in the device information acquisition section 104, equipment functions and state analyzing parts 105, and the display information formation part 106 with the directions from the output destination change selecting part 102, An identifier list is passed to the display information formation part 106 (Step S112), the identifier list of device names, i.e., a list list, is generated by this display information formation part 106, and the window of this device name list list is displayed on the display 109 (Step S113).

[0103]Next, a mouse button is operated and the display control part 108 judges whether the specific device name under list list was chosen (Step S114), When it judges that the specific device name was chosen, highlighting of the specified device name is carried out, for example, and a user is told about it (Step S115). And if it judges whether there was any operation of a Cancel button (Step S118) and there is no operation of a Cancel button, it will return to Step S114.

[0104]At Step S114, if the display control part 108 judges that operation of a mouse button is not made, it will judge whether operation of a selection button was made (Step S116). When it judges that the selection button was operated, Since the display control part 108 sends the selected device name information to the output destination change selecting part 102 noting

that change selection of a device is become final and conclusive, the output destination change selecting part 102 switches it with the selected device name information concerned, and it outputs directions to the output destination change switch portion 103 (Step S117). And selection operation is terminated. When it is judged that a selection button is not operated at Step S116, it progresses to Step S118. When it is judged at Step S118 that the Cancel button was pushed, this selection operation is ended.

[0105]The output destination change switch portion 103 receives the selected printout device name as an identifier according to the change directions from the output destination change selecting part 102, and directs acquisition of the device information corresponding to the printout device name to the device information acquisition section 104. The output destination change switch portion 103 directs the change of the display screen of the printing instructing operation panel for a printing demand to the display control part 108. The output destination change switch portion 103 directs the change of a printout device to the printer driver 121 (it corresponds to the printer driver 22 of drawing 3).

[0106]Drawing 6 is a flow chart showing operation of this output destination change switch portion 103. Namely, if the directions from the output destination change selecting part 102 are received (Step S121), It judges whether those directions are directions of list list creation (Step S122), and when creating a device name list list which was mentioned above when that was right, processing performed by this output destination change switch portion 103 is performed (Step S123).

[0107]When it judges that the directions from the output destination change selecting part 102 are not directions of list list creation at Step S122, the output destination change switch portion 103, Judge whether they are change directions of a printout device (Step S124), and if it is change directions, Processing for an output destination change change is performed, and directions which were mentioned above to the device information acquisition section 104, equipment functions and state analyzing parts 105, the display control part 108, and the printer driver 121 are given (Step S125).

[0108]In response to the change directions from the output destination change switch portion 103, the device information acquisition section 104 acquires the device information on the printout device name from the device Research and Data Processing Department 101, and passes it to equipment functions and the state analyzing parts 105. At this time, information as shown below, for example is included in the device information which the device information acquisition section 104 acquires.

[0109]Namely, - output resolution (for example, 400dpi)

- The kind of paper size set [of the printout device / the model name and now] (for example, tray 1=B4, tray 2=A3, and tray 3=A4, a manual bypass = postcard)

- The range of the rate of scaling (for example, 25% - 400%)

- If it is double-side printing propriety and C, it is a number (for example, nothing / 2up/4up/9up) of the propriety and the Nup function of shorter side binding / long side binding which can be set up.
 - The kind of delivery tray (for example, the upper surface / sorter / HCS)
 - the propriety of finishing treatment -- if good, the kind of bookbinding / stapler stop and a kind are bookbinding and a binding position (for example, left binding / right binding) and a kind are stapler stops -- the stop positions, such as two places, the one lower left, Uichi or a place, Yuji or a place, and the one lower right, for example, the one upper left -- the left --
- It is ****. Although the function of Nup may also be called Nin1 function, it is a function which displays and prints two or more (N) pages on the paper of one sheet.
- [0110]Equipment functions and the state analyzing parts 105 analyze the information about the selected equipment functions and performance of a printout device from the passed information, It opts for the performances (for example, a numerical input, reduction/expansion **** of paper specification, etc.) about functions (for example, a paper size possible [double-side printing/copy] and usable, reduction/expansion possibility of, sorter usable, finishing place Michiyoshi ability, etc.) and it. The state information of the selected printout device is analyzed and a device status is determined. And the decision results are sent to the display information formation part 106.
- [0111]The display information formation part 106 receives the information on the aforementioned analysis result from equipment functions and the state analyzing parts 105 based on the change directions from the output destination change switch portion 103. And when the printout device with which the analysis result of state information was chosen shows that it is not usable by failure etc., the display information formation part 106, The display information on an error message is constituted, it is sent to the display information preserving part 107 as a display buffer used in order to display by the display control part 108, and it displays on a display.
- [0112]And when usable in the selected printout device, the display information formation part 106. Display information is generated according to the analysis result of the state of equipment functions and a device, the printing instructing operation panel about the newly selected printout device is reconstructed, and it displays on a display through the display control part 108. This printing instructing operation panel is generated from the standard operation screen currently prepared common to two or more printout devices connected to the network beforehand.
- [0113]Since the device Research and Data Processing Department 101 acquires the information relevant to printing instructing operation, including two or more equipment functions, state information, etc. of a printout device which were connected to the network, this standard operation screen, Based on the acquired information, in the display information

formation part 106, it is constituted beforehand and saved so that all the printing instructing operation items may be covered.

[0114]The information on this standard operation screen is not automatically created beforehand based on equipment functions or state information which were acquired from the printout device connected to the network like this embodiment, It may be made to prepare what was created so that all they might be covered beforehand in consideration of [all] two or more equipment functions and state information of a printout device which are connected to a network.

[0115]In this case, regardless of the number of functions of a printout device, in order to use two or more printout devices in common, a printing instructing operation panel is considered as the composition which divides this printing instructing operation panel into two or more sheets, and displays it so that a fixed size may be maintained. each of the printing instructing operation panel divided into two or more sheets in this example -- "foundations" -- "in addition to this" -- "- it classifies according to a category like list" and "finishing."

[0116]That is, a printing instructing operation panel is divided into the navigational panel of a basic function group, the navigational panel of other function groups, and the list navigational panel that, in addition to this, displays all the functions of function groups on the whole surface as a basic function group in this example. In the case of this example, about the option of others, such as finishing treatment as pretreatment and post-processing of a printing job which are not included in a basic function group and other function groups, for example, post-processing, the navigational panel about the function of that option is prepared independently. Although there is also a manuscript reading function by the scanner and image reader as pretreatment of a printing job as other options, suppose that only the function of finishing treatment is explained in this embodiment.

[0117]The example of the navigational panel of other function groups is shown in drawing 8, and the example of a list navigational panel is shown for the example of the navigational panel of a basic function group in drawing 7 at drawing 9, respectively. The example of the navigational panel of the finishing treatment as an example of other options is shown in drawing 10.

[0118]In these drawing 7 - drawing 10, 31 is a category display column. it mentioned above in this example -- as -- "foundations" -- "in addition to this" -- "-- the category button for choosing the category of list" and "finishing" is displayed on this category display column 31. The display information formation part 106 is provided with the display information on the category button of "foundations", "others", and a "list", and it is beforehand provided with the display information on the category button for the each about option functions, such as finishing treatment which is not included in other function groups.

[0119]However, by there being three category buttons which can be displayed on the category

display column 31, operating the scroll operation part 31a, and making it scroll up and down due to a display space in the case of this example, The category button which calls a selectable navigational panel can be displayed on this category display column 31.

[0120]And if one button in this category display column 31 is specified with a mouse etc., as drawing 7 - drawing 10 attach and show a slash, It is shown by reversing display etc. that the category button was chosen, and the display control part 107 displays the printing instructing operation panel of the category on a window.

[0121]Although the category button of "foundations", "others", and a "list" is always displayed on the category display column 31, Only when the printout device which has equipped the finishing treatment function is chosen by the user, he is trying to display the category button which chooses finishing treatment on this category display column 31 so that it may also mention later. Therefore, when the printout device with which a user does not have for example, a finishing treatment function is chosen. The category button of "finishing" does not appear, but for this reason, on the category display column 31, the navigational panel of the finishing treatment of drawing 10 is not displayed, either, and it becomes impossible at it to set it up about the finishing treatment by a user.

[0122]The setting-out item content of each function in each category is displayed on the display column 32 of each navigational panel. The display column 33 is a column which displays the file name of a printing referent, and the display column 34 is a column for displaying the present state of the print job published from the printing indicating device. The display column 35 is a display column of various kinds of button icons, and the message indicator of the present state of a printout device where the navigational panel corresponds is carried out to the display column 36.

[0123]As shown in drawing 7, in the navigational panel of a basic function group, the function displayed, this example - number-of-copies specification - both sides / one side specification, and the direction specification of binding - binding margin tab control specification The amount specification of - binding margins - paper-size specification /rate specification of - scaling - **** is carried out -- don't carry out - delivery tray specification It is supposed that it is at least as - offset stack specification and individually operated designated money trust.

[0124]The function displayed in the navigational panel of other function groups is -Nup (Nin1) specification, as this example shows to drawing 8. - classification paper specification They are - security print specification and its password.

[0125]Here, the function of a security print is a function to attach a password to print data and to publish a job. It becomes as [waiting state] without usually being outputted even if it becomes the turn that the job is printed, in a printer if the function of a security print is set up. In order to print this job, after becoming the turn printed, the password which specified that job with the printer and was set up by the printing instructing operation panel, and a password in

agreement must be entered.

[0126]A list navigational panel is displayed by the layout design which thought as important that the above-mentioned basic function and the function which doubled the function in addition to this could be looked through rather than the ease of carrying out of setting out like drawing 9.

[0127]"Bookbinding" and a "stapler stop", and the setting-out item about the each are displayed on the display column 32 of the navigational panel about the finishing treatment of the example of drawing 10 as a kind of finishing treatment mentioned above.

[0128]The display information formation part 106 does not reconstruct a printing instructing operation panel for the total function of the standard operation screen shown in drawing 9 to the selected printout device in the state which a user can set up, Distinguishing the function which the selected printout device equips from the analysis result from equipment functions and the state analyzing parts 105, the function which has not been equipped reconstructs the display information on a printing instructing operation panel in the state where a user cannot input setting out, as use being impossible.

[0129]For example, as a method of displaying so that it may suppose that setting out is impossible, since it is not equipment functions, The method which does not display the printing directions setting-out item about the equipment functions concerned which cannot be used on a printing instructing operation panel, and the mark which cannot be used are given and displayed, a setting input -- impossible or the method of repealing -- it indicates by a shade (compared with the display of other printing directions setting-out items, concentration is made thin and displayed); and there is impossible or the method of repealing about setting out in the printing directions setting-out item of this shade display.

[0130]In the display example of drawing 7 - drawing 10, the printing directions setting-out item of the function which has not been equipped among said two or more setting-out items of a standard operation screen is indicated by a shade, it is made the setting-out impossible by a user, and the printing instructing operation panel is reconstructed. When a low-ranking item is in a function item like "bookbinding" and the "stapler stop" which are the kinds of finishing treatment of the navigational panel of the finishing treatment of drawing 10, for example, respectively and the function item is not chosen, a shade indication of all the items of the low rank is given.

** [selection of the function item of said higher rank / try / he / only for the item in which the selection setting of the low rank is possible to change from the shade display to a real display].

[0131]In drawing 7 - drawing 10, if O seal shows the setting button of each printing directions setting-out item, the setting button concerned is directed with a mouse and that printing

directions setting-out item is set up, a user will be told that the display of this setting button was changed and set as the display of O.

[0132]In displaying a printing instructing operation panel on the display screen of the display 109, the display information formation part 106 is mentioned later, The display information on initial setting of a setting-out item is generated using the standard value (default value) beforehand set to the setup information about the last printout device.

[0133]Next, according to the change directions from the output destination change switch portion 103, the display control part 108, The display information from the display information formation part 106 is received to the display information preserving part 107, and an error message is displayed in a window different from a printing instructing operation panel, or the window of a printing instructing operation panel is switched to the display screen of the reconstructed printing instructing operation panel.

[0134]The display control part 108 displays a printout device name list as another window with the directions from the output destination change selecting part 102, and sends the selected printout device name to the output destination change selecting part 102 again in response to the selection operation by the user by the directions setting operation section 112.

[0135]And the display control part 108 displays the display information saved at the display information preserving part 107 on the display 109. In the display screen of a printing instructing operation panel the display control part 108, For example, receive the setting operation from the directions setting operation section 112 which consists of mice, change the display information on the display information preserving part 107 into the thing according to setting out, and the established state is made to reflect in the screen of the display 109, and the set-up printing directions information is saved at the setup information preserving part 110.

[0136]When the change directions from the output destination change switch portion 103 are received, the setup information preserving part 110 is cleared after passing the saved last setup information to the display information formation part 106.

[0137]The standard value (default value) about the setting-out item of all the printout devices with which the default value preserving part 111 is arranged on the network is saved. In this case, the default value of this default value preserving part 111 is classified with what is used for all the printout devices in common, the thing to use for every kind of printout device, the thing to use for each printout device of every, etc., and setting out and change of it are enabled by the user.

[0138]The display information formation part 106 acquires the last setup information of the setup information preserving part 110, and when effective even after the last preset value's switching, it makes the last preset value the setup information in the printing instructing operation panel reconstructed as this preset value. A preset value is changed when the last preset value is not effective. For example, although the sorter is attached to the last printout

device and it had been in the established state as which the sorter was chosen, when the sorter is not attached to this printout device, the preset value of a sorter sets up "it is not used."

[0139]The display information formation part 106 includes the default value from the default value preserving part 111 in display information as setup information of the setting-out item, when the reconstructed printing instructing operation panel has unset up setting-out items, such as a setting-out item which is not in the last printing instructing operation panel.

[0140]And the determined initialization information is sent to the setup information preserving part 110, and the initialization information is saved.

[0141]Here, as mentioned above, since it is the information corresponding to selected equipment functions and state of a printout device, the display information displayed on a printing instructing operation panel is not expressed as display information as which all the setup information saved at the setup information preserving part 110 is displayed on a printing instructing operation panel. For example, when options, such as a sorter mentioned above, do not exist in the selected printout device, or these selection button displays do not exist in a navigational panel, it is indicated by a shade and it is supposed a having mentioned above passage that setting out is impossible. Thus, the erroneous setting input by a user can be made improper by not displaying the function etc. which are not equipped on a navigational panel.

[0142]In this way, since the last setup information can be used as it is about the same printing directions setting-out item as last time when the printing instructing operation panel to the newly selected printout device is reconstructed, it is dramatically convenient. About the printing directions setting-out item which was not before, since the default value (standard value) currently prepared beforehand is automatically set up as setup information, it is user-friendly also at this point.

[0143]When changing setup information by a printing instructing operation panel, change of the setup information is possible by the setting operation by the directions setting operation section 112. About the changed setup information, the information to which the setup information preserving part 110 corresponds is rewritten by the changed setup information.

[0144]The printing directions setup information set up through the display control part 108 as mentioned above is saved at the setup information preserving part 110. And if the operational input of the issue requesting of the print job by the directions setting operation section 112 occurs, the setup information preserving part 110 will generate printing directions information from the saved setup information in response to the issue requesting directions from the display control part 108, and will pass it to the job issuing part 123.

[0145]The printer driver 121 publishes the change notification message of a printout device to the working application program 120 with the change directions accompanied by the printout

device name chosen from the output destination change switch portion 103. Based on the directions from the application program 120, the printer driver 121, Printing job data is received from the application program 120, print data (for example, Page Description Languages, such as PostScript) are generated corresponding to the selected printout device, and the print-data preserving part 122 is passed. The printer driver 121 is required for generation of print data, for example, acquires information, including output resolution etc., from equipment functions and the state analyzing parts 105.

[0146]The application program 120 consists of 1 thru/or two or more application programs which performs printing directions to the printing indicating device 100.

[0147]The print-data preserving part 122 receives and keeps the print data from the printer driver 121, and it passes print data to the job issuing part 123. The print-data preserving part 122 saves print data until transmission of the printing demand from the job issuing part 123 is completed.

[0148]Based on the print job issue requesting directions from the display control part 108, the job issuing part 123, Printing directions information is acquired from the setup information preserving part 110, and print data are acquired from the print-data preserving part 122, these printing directions information and print data are included in a printing demand, and it transmits to the printout device specified as an output destination change through the communications department 130.

[0149]Although the printing management apparatus 200 is provided with the network information providing parts 201, the device offer-of-information parts 202, and all the printing job parts 203 in drawing 1, The network information providing part 201 and the printing job part 203 may be included in another apparatus connected to LAN10, and may be incorporated into the printing indicating device 100. If it is a case of the end system A of drawing 2, the computer 11A includes both the functions of the printing management apparatus 200 and the printing indicating device 100.

[0150]Next, it is as follows, when an example is given and operation of the printing indicating device 200 which has the above composition is explained. In the following explanation, the operation using a mouse is made in the directions setting operation means 112.

[0151][Display of a navigational panel] Drawing 11 A and drawing 11 B are the figures showing the screen input processing table 71 which consists the screen of the display 109 of the printing indicating device 100 of an input process to the coordinate point when it was directed to drawing 12 with the mouse, and its execution control flag information. Operation with the printing indicating device 100 is performed through this screen.

[0152]Drawing 13 is a flow chart showing operation of the display control part 108. That is, the display control part 108 displays the contents written in the bit map memory for a display on Screen 61 shown in drawing 11 A, after initializing a control variable (Step S131) (Step S132).

[0153]Here. [whether a user double-clicks the printer group icon 62 with a mouse, and] Or if the print command 65 is chosen from the pull down menu of the file column 64 of the menu bar 63 (Step S134), Based on the coordinate point of the cursor at this time, an indicating input is distinguished from the screen input processing table 71 (Step S134), and corresponding open shop operation is performed (Step S135). As a result, as shown in drawing 11 B, the window 66 of the navigational panel for printing directions on Screen 61 is opened.

[0154]the display control part 108 -- the processing of those other than menu manipulation -- carrying out (Step S133, S136, S137). When the flag information on an input process table is 0 in Step S136, When the indicating input at that time is disregarded and the field of the outside of the window 66 of the navigational panel of Screen 61 is operated, Since other application programs are processed, the user can perform printing instructing operation by GUI (graphical user interface).

[0155]Next, drawing 14 is a flow chart showing operation of the printing indicating device 100 at the time of opening the window 66 of a navigational panel.

[0156]First, after reset of a Window control variable etc. is performed (Step S141), the window 66 of a navigational panel is opened (Step S142). Next, the file which is recording the printout device name set up last time at the time of an end is accessed, Acquisition (Step S143) of the printout device name at the time of an end and extraction (Step S144) of the setting detail are performed last time from the file, and it rises as what chose the printout device first.

[0157]During this starting, the device information acquisition section 104 acquires the state information of the printout device chosen from the device Research and Data Processing Department 101 (Step S145), It is judged whether it is in the state which it analyzes by equipment functions and the state analyzing parts 105 (Step S146), the printout device is started, and this can use (Step S147).

[0158]If it is in the state which can be used, equipment functions and the state analyzing parts 105 will be passed and stored temporarily at the display information formation part 106, in order to use this state information as an object for a display later, and the device information acquisition section 104 will acquire the device information on the printout device concerned from the device Research and Data Processing Department 101. And the acquired device information is analyzed by equipment functions and the state analyzing parts 105, and is handed over to the display information formation part 106. And as it carries out based on the device information and the state information currently stored and mentioned above, by the display information formation part 106, the display control part 108, the display information preserving part 107, and the setup information preserving part 110. The last time same printing instructing operation panel as the time of an end is reconstructed, and it is displayed on the display 109 (Step S148).

[0159]In the state where it cannot use without starting the first selected printout device in the

state analysis at the time of starting of the aforementioned printing instructing operation panel. After resetting the flag information showing the ability not to use (Step S149), the list list of printout device names mentioned above is displayed (Step S150), and it is made to be the same as that of an above-mentioned change procedure, A user can choose a printout device (Step S151, S152, S153). And the selected printing instructing operation panel for printout devices is displayed on the display 109 as mentioned above by performing processing after the aforementioned step S145 after that.

[0160]As a navigational panel which chooses / switches an output destination change from the list list of printout device names in this case, It is good to use output destination change selection / change panel which analyzed by equipment functions and the state analyzing parts 105 about the state information and the specific device information (for example, information on a paper size) of all the printout devices on a list list, and reflected the analysis result as shown in drawing 15.

[0161]The paper size is displayed on the right of the column of a state, and the number of print jobs published to each printout device is expressed as the switching operation panel of drawing 15. in using the switching operation panel of this drawing 15, it can perform selection operation of an output destination change, checking whether it is usable in a printout device, and its equipment functions and load.

[0162]Although the device identifier and device information on each printout device are memorized in the device Research and Data Processing Department 101, these information is respectively memorized by the device information table 72 of the same format. Drawing 16 expresses the example of this format.

The contents shown in the device information index table 73 on the left-hand side of drawing 16, i.e., the form of a printout device, magnification, a paper size, operating status, the number of jobs, paper number of sheets, etc. are memorized by the device information table 72 as shown in the right-hand side of drawing 16.

[0163]The device Research and Data Processing Department 101 has also memorized the printout device registration table 74 as shown in drawing 17. This printout device registration table 74 is for memorizing the information on use time a registration code, a use count, and last time that expresses the memory address of the device information table 72, and the existence of that use for every device identifier of each printout device.

[0164]Drawing 18 A shows the example of the list of identifiers of the acquired printout device. Drawing 18 B shows the example of the acquired device information.

[0165]Drawing 19 is a flow chart which shows the example of the acquisition operation of a device identifier and device information performed in the device Research and Data

Processing Department 101. That is, the device Research and Data Processing Department 101 gives a demand to the printing management apparatus 200 first, and the list and device information on the identifier of the printout device connected to the network are acquired from the network information providing part 201 (Step S161).

[0166]And it is checked whether the identifier of a printout device is taken out from this acquired list one by one (Step S162), the printout device registration table 74 is searched, and that identifier is already registered (Step S163). When already registered, the registration code is investigated (Step S164), when a registration code is 0, it returns to Step S162 without carrying out acquisition operation of the device information, and the following identifier is taken out.

[0167]When a registration code is 1, after clearing the contents of the device information table 72 of the printout device of the identifier (Step S165), flag information or the acquired data is written in the column to which the device information table 72 corresponds each data of the acquired device information (Step S166). And if the processing about all the identifiers of an identifier list is not completed, it returned to Step S162 and the processing about all the identifiers is completed, this acquisition processing operation will be ended.

[0168]In Step S163, when it has been recognized as a new device, it sets up display the device which newly registered with the device information table 72 (Step S168), set the registration code as 1 and newly registered it on a list list (Step S169). And it progresses after that after Step S165.

[0169]Drawing 20 is a flow chart which shows the example of the processing which writes each data of the device information in Step S166 of drawing 19 in the device information table 72.

[0170]That is, when each data is taken out (Step S171), it confirms whether to be a new data item (Step S172) and an item is already shown in the device information table 72, data is written in a corresponding column (Step S174). If it is a new data item, the item will be temporarily set as the item of the special kind column (Step S173). And it distinguishes whether the processing about all the data was completed, if it has not ended, it returns to Step S171, the above processing is repeated, and if it has ended, the writing processing of the data to this device information table 72 will be ended.

[0171]As long as it is a new data item, it may be made to specify the column which taken out and writes in warning in Step S173.

[0172]The setup information preserving part 110 is provided with the setting-up-function preservation table 76 (refer to drawing 21 B) which memorized the setting up function of the job which the setting up function set to the setting-up-function table 75 (refer to drawing 21 A) which registered the function set up now before was expressed, and was published. When the setting up function of the last job is set up when a navigational panel is opened (Step S144 of drawing 14), and a job is newly published, the function set as the setting-up-function table 75

about that job is set to this setting-up-function preservation table 76.

[0173]The default value preserving part 111 is provided with the default value preservation table 77 (refer to drawing 22) where the default value of a setting up function is saved.

[0174]The image information table 78 (refer to drawing 23 A) where the display information formation part 106 memorizes the image data of a display graphic, The image information index table 79 (refer to drawing 23 B) which memorizes the memory address of the image information table corresponding to a display graphic, It has the display item control table 80 (refer to drawing 24) which memorized the display graphic which displays each navigational panel, and the flag information which controls the display item, and generates on the bit map memory which does not illustrate the display information on each navigational panel using these tables 78-80. The display graphic of each item consists of a variable display figure which consists of a sign and text, such as a fixed display figure and a radio button.

[0175]The display information formation part 106 performs processing which rewrites suitably the flag information which controls the variable display figure and display mode of the display item control table 80 according to an operating condition based on the information on equipment functions and the state analyzing parts 105, and the setting-up-function default value preservation table 75 and 77.

[0176]Drawing 25 is a flow chart which shows the example of operation of the display information formation part 106. That is, in the display information formation part 106, a display item first corresponding according to the kind of screens to display, such as a list display and each navigational panel, is taken out one by one (Step S181, S182). And the flag information on an item is distinguished (Step S183), the display graphic of the display mode registered for every item is taken out according to the discriminated result (Step S184, S185, S186), and it writes in on a bit map memory (Step S187).

[0177]Two or more display graphics can be registered as a figure of the display mode 1 and the display mode 2. If what hung the shade is prepared for the figure of the display mode 1 as a figure of the display mode 2, the state which cannot be operated can be easily told to an operator. It can also make it easy to make the kind of display mode into four or more kinds.

[0178]Drawing 26 is an example of the order table 81 of a list display which stored in order the printout device which carries out a list display. Drawing 27 is the performance-analysis program index table 82 showing the processing program beforehand registered for every group of data. Drawing 28 shows the table of the item of the variable display figure set up for every function.

Before long, drawing 28 A shows the related display item index table 83, and drawing 28 B shows the related display item table 84, respectively.

[0179]Drawing 29 is a flow chart which shows the example of operation of equipment functions

and the state analyzing parts 105. When first judging whether a display is a list display (Step S201) and displaying a navigational panel, the contents of the device information table 72 of the printout device specified from the device Research and Data Processing Department 101 are taken out (Step S202). Next, the processing program beforehand registered into the performance-analysis program index table 82 for every group of data is used, It processes by taking out each group's data one by one, the display mode of the fixed display figure of the display item control table 80 is determined, and the flag information on each item is set up (Step S203).

[0180]Next, based on the setting-up-function table 75, the setting-up-function preservation table 76, and the default value preservation table 77, the display mode of each variable display figure is determined, and the flag information on each item registered into drawing 28 is set up (Step S204).

[0181]Under the present circumstances, an error flag is set up when the item which it is going to set up is contradictory to the contents of the setting-up-function table. If this error flag is detected (Step S205), that device will judge that use is impossible and will perform list display operation as follows. Also when it judges that it is a list display at Step S201, this list display operation is performed.

[0182]Namely, the order table 81 of a list display of drawing 26 is taken out first (Step S207), The item corresponding to the item which took out the device name from this order table 81 of a list display one by one (Step S208), took out device information corresponding from the device Research and Data Processing Department 101, and was specified as a display item is determined, and it writes in the list display column (Step S209). Next, if it judges whether it is the bottom which processing of said steps S207-S209 about all the devices of the order table 81 of a list display ends (Step S210) and judges that it ended about all the devices, this manipulation routine will be ended.

[0183]A printout device is registered into the order displayed according to specification of a filter or a sort order when a printout device is registered into the order table 81 of a list display to the printout device registration table 74.

[0184]If an error flag is not detected at Step S205, above-mentioned processing is repeated until the processing about all the groups' data is completed (Step S206).

[0185]Drawing 30 is a flow chart showing operation of the processing program which determines the display mode of the fixed display figure about a paper size as an example of the decision processing of the display mode of the fixed display figure of the aforementioned step S203.

[0186]That is, the flag information memorized by the flag information which took out the data of each paper size one by one (Step S211), next was memorized by the function data of the device information table 72, and state information is read (Step S212, S213). And both flag

information is calculated (Step S214), and the result of an operation is set as the flag information on a corresponding paper size indicator (Step 215). If the above processing is performed about all the items of a paper size and it ends about all the items (Step S216), this processing operation will be ended.

[0187]Drawing 31 is a flow chart showing the example of the decision processing of the display mode of the variable display figure of the aforementioned step S204 of operation.

[0188]First, a space is first written in and cleared on the setting-up-function table 75 (Step S221), and the contents are read one by one about each item of the setting-up-function preservation table 76 (Step S222).

[0189]If the value is already set as the item (Step S223), will read the flag information on the item related about the item which is going to set up a value with reference to the related display item index table 83 of drawing 28, and it will be judged whether setting out of the value of the item is possible (Step S224). In being possible, it writes a value in the item to which the setting-up-function table 85 corresponds (Step S225). And it judges whether the acquisition request of device information is coming (Step S226), if it is not coming, it returns to Step S222, and the processing after this step is repeated.

[0190]At Step S224, when it is judged that setting out of the value of the item is not possible, it progresses to Step S226, after setting an error flag (Step S230).

[0191]By the case where it is judged in Step S223 on the other hand that the value is not set as an item. When the value is set as the item of the default value preservation table 77, it judges whether setting out of the value of the item is possible like Step S224 (Step S228), and when possible, a value is written in the item to which the setting-up-function table 75 corresponds (Step S229). When setting out of the value of the item is not possible, it progresses to Step S230 and an error flag is set up.

[0192][Display of an output destination change selection panel] From the state where the printing instructing operation panel to a certain printout device is started, when a user changes the printout point into other printout devices, in the screen of the display 109, the mouse 112 performs changing instruction of the printout point first. The output destination change selecting part 102 Then, all on [the device Research and Data Processing Department 101 to] a network, Or the list of two or more preselected printout device names is acquired, and output destination change selection / change panel which consists of the printout device name list concerned as shown in the screen of the display 109 via the display control part 108 at drawing 32, for example is displayed on a window.

[0193]A user directs a printout device name to operate and choose the mouse 112 as in this output destination change selection / change panel. Then, highlighting of the printout device name selected, for example is carried out, and it is checked. After this check, if the definite reference of the printout device name as which a user wants to double-click a click or a

printout device name, and to choose a "selection button" with the mouse 112 is carried out, the selection information which consists of that printout device name will be sent to the output destination change selecting part 102 from the display control part 108. The output destination change selecting part 102 switches the printout device name selected based on the selection instructing, and passes it with directions to the output destination change switch portion 103. Thereby, the change of an output destination change will be started and procedure as shown in drawing 33 is performed.

[0194]Namely, based on the change directions from the output destination change switch portion 103, and a printout device name, the device information acquisition section 104 acquires first the state information of the printout device chosen from the device Research and Data Processing Department 101, and passes it to equipment functions and the state analyzing parts 105 (Step S1). Equipment functions and the state analyzing parts 105 analyze the state of the selected printout device, and judge whether it is usable (Step S2).

[0195]The selected printout device is breaking down, for example, or notifies it to the display information formation part 106 in the state which is not usable, without being started. Then, the display information formation part 106 generates the display information on the message "the output destination change which is not usable cannot be chosen", for example, That message is displayed on the screen of the display 109 through the display control part 108 (Step S11), and the manipulation routine at the time of the change of this output destination change is ended.

[0196]If usable in the selected printout device, equipment functions and the state analyzing parts 105 tell the device information acquisition section 104 about that, and in order to use this state information as an object for a display later, they are passed and stored temporarily at the display information formation part 106. And the device information acquisition section 104 acquires the device information on the selected printout device from the device Research and Data Processing Department 101 (Step S3).

[0197>About the function item which cannot receive, analyze and use the device information acquired by the device information acquisition section 104, equipment functions and the state analyzing parts 105 add a seal (for example, flag) of that it cannot be used, and hand it over to the display information formation part 106 (step S4). As the display information formation part 106 was mentioned above, the display item of the printing instructing operation panel of the selected printout device is reconstructed (Step S5).

[0198>About the printing directions setting-out item of the function which cannot be used into a basic function group and other function groups in the case of reconstruction of this printing instructing operation panel, as mentioned above, a shade display is performed and it can be made not to carry out in this example selection setting of the user.

[0199]When the selected printout device possesses the function of the finishing treatment

which is not included in a basic function group and other function groups, The category button of "finishing" is displayed on the category display column 31, and the navigational panel of the finishing treatment shown in drawing 10 is formed. When the selected printout device does not possess the function of finishing treatment, it is made not to display the category button of "finishing" on the category display column 31, and the navigational panel of finishing treatment is not formed.

[0200]Next, as mentioned above, the setup information of the printing directions setting-out item of an usable function is determined using the last setup information of the setup information preserving part 110 (Step S6). Next, if it judges whether there is any unset up item about the printing directions setting-out item of an usable function (Step S7) and there is an unset up item, setup information will be determined using the information on the default value of the default value preserving part 111 (Step S8).

[0201]It is recognized as the ability not to be set up about the printing directions setting-out item of the function by which the shade is carried out although the display control part 108 displays the display information on a printing instructing operation panel on the display 109, and correspondence of that it cannot set up is carried out to a subsequent user's setting input (step S9).

[0202]Next, with the change directions from the output destination change switch portion 103, the printer driver 121 is changed into what suited the selected printout device (Step S10), and the manipulation routine at the time of the change of this output destination change is ended.

[0203]Next, although drawing 34 and drawing 35 are other display examples of the printing instructing operation panel of a basic function group, drawing 34 is an example of the printing instructing operation panel display before an output destination change change.

Drawing 35 is an example of the printing instructing operation panel display after [drawing 34 to] a change.

The printing directions setting-out item [that it cannot be used] of a function is deleted from the display item instead of a shade display, and the printing directions setting-out item of a function of that it cannot be used is no longer made not to be expressed to a display with the display example of this drawing 34 and drawing 35.

[0204]In the case of this example, a printout device name and its operating status are described by the topmost part display position 41 of the printing instructing operation panel. The printing instructing operation panel of drawing 34 is a printer name of "Paris-PS" in "Polo-PS" and the printing instructing operation panel of drawing 35, and it is shown that both printers are "under operation", respectively.

[0205]The table of drawing 36 shows the state of both printers, and the outline of equipment functions, and each printing instructing operation panel serves as display information

according to this table. And drawing 35 is the display in the initial state where setting out using the setup information in the printing instructing operation panel of drawing 34 was performed. As for the function of Nup, a delivery tray, field specification, expansion/reduction, and a paper, the last setup information is adopted as it is.

[0206]And the state of the corresponding printout device is displayed on the upper part display position 42 of the printing instructing operation panel. As shown in drawing 35, in the selected printout device after a change, the paper of paper-size A4 remains, it comes out from the analysis result of the state information only, and a certain thing is told. Therefore, the user can carry out suitably implementation of maintenance services, such as supply of a paper, suitable printing directions, or reselection of a printout device from the information on this state to suitable timing.

[0207]When a user prints an application data file, the applicable file is specified. That is, a user clicks "electronic copy selection button" 44 (displayed as the file (F)) in the display position 43 with a mouse, and opens an electronic copy selected window. This window is used for the list of electronic copy files, search, and selection. A file to print from this window is acquired. This is performed by operation of "locating cursor in the position of an electronic copy file name to print, pushing the button of the mouse 112, moving cursor onto "electronic copy selection button" 44 of a printing instructing operation panel as it is, and releasing the button of the mouse 112", for example.

[0208]How to incorporate a file to print is not restricted to an above-mentioned method. For example, it is the method of drags and drops a direct file to a printing instructing operation panel, and incorporating it from the file management manager who has managed all the files. With drag and drop, placed cursor here on the file name in a file management manager's file list display to print, and pushed the left button of the mouse, and choose a file and the left button of a mouse has been pushed. It is operation of bringing cursor to a printing instructing operation panel, and detaching the left button of a mouse there.

[0209]Further, the printer driver 121 is chosen with the printing menu of application, and how to incorporate a file to print also includes the method of performing printing directions of application.

[0210]This file acquisition operation starts a printer driver, in order to change the print data of the acquired file into the printer format corresponding to the printout device chosen, and it means requesting conversion. Then, as the print data of this file were mentioned above, they are changed into the print data which suit that printout device with the printer driver 121, and they are saved at the print-data preserving part 122.

[0211]Although the printer driver 121 omitted the graphic display in drawing 1, it notifies the file name to the display control part 108 after conversion of print data. The display control part 108

notifies a user of the format conversion of print data having been completed by displaying the file name on the file area 50 of a printing instructing operation panel.

[0212]After the change of the printout point leaves the file acquired on the occasion of the last printout point, and he is trying to change it into the format corresponding to the printout device after the print data of these files switching automatically according to a change in the example of drawing 34. However, in this way, it does not leave the last file, but even if it clears the last file, it is easy to be natural [the file] at the time of the change of the printout point.

[0213]In this printing instructing operation panel, the display control part 108 receives the setting variation of the printing instruction content from the user by the mouse which is the specification setting operation section 112. Save the setting variation at the display information preserving part 107, and it is reflected in the printing instructing operation panel currently displayed, and the setup information is saved at the setup information preserving part 110.

[0214]Drawing 37 is a flow which shows processing when a paper selection button is pushed. That is, the display mode (flag information) corresponding to the inputted paper size is first read and (Step S301) distinguished from the display item control table 80 (Step S302).

[0215]And if a display mode is except one as a result of the distinction, an error display [that it cannot set up] will be performed (Step S306), and it will end as it is. If a display mode is 0, that display mode will be changed about the display item (paper sizes other than the paper size by which input setting was carried out in this case) related with reference to the related display item table 84 (Step S303). Next, the display mode corresponding to the inputted paper size is rewritten, an active state displays (Step S304) and the setup information of the paper size of the setting-up-function table 75 is rewritten (Step S305). Above, this paper button input process is completed.

[0216]If the job issue directions from a user are received, the display control part 108 will send printing request designation to the job issuing part 123. How to click "start button" 46 at the lower right of a printing instructing operation panel with the mouse 112 as the method of a user's job issue directions, for example, Or "job button" 45 of a printing instructing operation panel are chosen, a job menu is displayed, and there are the method of directing by the job menu, etc.

[0217]Drawing 38 is a flow chart which shows job issue processing when the start button 46 is pushed.

[0218]When it confirms whether the contents of the function-settings table 75 can be performed (Step S311, S312) and a setting detail has inconsistency, an error display is performed (Step S316) and it ends as it is. When there is no inconsistency in a setting detail, print data are processed with the printer driver 121, the job was made to publish -- back (Step S313) -- the contents of the setting-up-function table 75 -- the setting-up-function preservation table 76 -- writing in (Step S314) -- the contents of the printout device registration table 74 are

updated (Step S315), and it ends.

[0219]The job issuing part 123 acquires said print data from the print-data preserving part 122, and it acquires printing directions information from the setup information preserving part 110, forms a printing demand, and transmits to the target printout device through the communications department 130.

[0220]The state information of the printout device chosen is acquired again, and it may be made to ask whether it is available at the time of this job issue. If it is made such, the change of state of the printout device after choosing a printout device can be checked, and it can be checked whether it is unusable.

[0221]Although the above is explanation about the output destination change change from the state where the printing instructing operation panel is started, in practice, the user has to start a printing instructing operation panel first. With the operator guidance in the screen of the display 109 of the printing indicating device 200, although a user starts a printing instructing operation panel, In that case, after accessing the file which is recording the printout device name set up last time at the time of an end and acquiring the printout device name at the time of an end from the file last time, it rises as what chose the printout device first.

[0222]Although it was made to perform first stage setting out of the setting-out item of a printing instructing operation panel in the above-mentioned example using the last preserved information of the setup information preserving part 110, The setup information, as for, a user expects preservation gives a discrimination file name, respectively, and saves it at the setup information preserving part 110, It is still better for a user to choose what is wished and to be made to perform first stage setting out of each setting-out item of a printing instructing operation panel by the selected setup information out of the setup information file of the saved past. In this case, it is convenient, if the contents of the past setup information are displayed on a window and a user enables it to get to know.

[0223]According to the printing indicating device explained above, a user switches the printout device used only by choosing a printout device name, can specify as the printout point and can do printing directions. And printing directions can be performed when the equipment functions at the time of the printer which it is going to use have been grasped certainly.

[0224]When the printout device which it was going to use has a desired function, it is easily switched to other printout devices. When failure occurs during use, it can switch to other printout devices at the time. Before performing printing directions, it can check easily to check standing of a printer beforehand.

[0225]When it is certainly detectable whether the printout device has a function of the finishing treatment of post-processing of a printing job and the printout device has a function of finishing treatment, the finishing treatment function can be specified and used from a remote position. Since it is keeping setting out of the finishing treatment by a user from being possible when the

printout device is not provided with the finishing treatment function, erroneous setting can be prevented certainly.

[0226]As mentioned above, it cannot be overemphasized that this invention can be applied also about directions setting out about the pretreatment function of printing jobs, such as not post-processing, such as finishing treatment, but printing and the inputting function of a manuscript which should be carried out copy processing, for example, a scanner, and an image reader. It is also possible for it to be made to carry out the handling same about other functions which are not included in a basic function group and other function groups as the finishing treatment function of the above-mentioned example.

[0227]When a user points at the time of the execution start, are trying for the printing indicating device 100 to acquire device information from the printing management apparatus 200 for every certain time interval, as mentioned above, but. Also while the printing instructing operation panel is started, said device information is asked to the printing management apparatus 200, these information is acquired timely, and a user can make it possible to get to know the newest state.

[0228]The way the device Research and Data Processing Department 101 advances an information acquisition request periodically [the method of an inquiry] at a certain time interval etc. When an "update button" is provided in a printing instructing operation panel and a user clicks this "update button" with a mouse, there is the method of advancing the update request of device information.

[0229]An "update button" is provided, and the flow of processing of the example in the case of updating the state information of the printout device under use by a user is explained, referring to the flow chart of drawing 39. The device Research and Data Processing Department 101 asks state information at least to the printing management apparatus 200 in this case comparatively frequently, and it is assumed that the newest state information is always acquired.

[0230]If a user clicks the "update button" of a printing instructing operation panel (Step S21), the display control part 108 will request acquisition of state information from the device information acquisition section 104 (Step S22). From the device Research and Data Processing Department 101, the device information acquisition section 104 acquires the newest state information of the printout device corresponding to the printing instructing operation panel at that time, and passes it to equipment functions and the state analyzing parts 105 (Step S23).

[0231]Equipment functions and the state analyzing parts 105 judge whether the printout device concerned is in a still usable also then state from the acquired state information (Step S24). By a failure occurrence etc., if use is impossible, the analysis result will be sent to the display information formation part 106. The display information formation part 106 generates the

display message made "not usable" about the state of the printout device under selection, and displays it on the status display column 42 which the printing instructing operation panel of the screen of the display 109 mentioned above through the display control part 108 (Step S25). And the routine of this information update is ended.

[0232]If usable in the state of a printout device, equipment functions and the state analyzing parts 105 will be passed to the display information formation part 106 by making this state information a display. The display information formation part 106 generates the status display information based on the newly acquired state information, and displays it on the status display column 42 which the printing instructing operation panel of the screen of the display 109 mentioned above through the display control part 108 (Step S26). And the routine of this information update is ended.

[0233]In this case, if the paper of A4 has run short, for example as a result of updating, a display message as shown in the status display column 42 of drawing 35 mentioned above will appear. In this case, as a state it is better to reflect the state of the newest printout device with an "update button", The warning information of the residue of the above-mentioned paper, etc. - business -- a paper jam and a paper tray. A thing and a discharging tray bottle with near exchange time of the exchange time and the drum cartridge of a thing and a drum cartridge with near exchange time of the exchange time and the toner cartridge of the power OFF door opening toner cartridge of - printout device which is not set become full, It is among another bottles that the discharging destination was changed etc.

[0234]As mentioned above, change of the state of a printout device is acquirable to the timing which a user needs automatically by updating state information, starting a printing instructing operation panel and performing the printing directions to a printout device. It becomes possible by updating the equipment-functions information on device information to also acquire the information on change, such as an addition of equipment functions, and deletion.

[0235]Although the device Research and Data Processing Department 101 of the printing indicating device 100 acquired the identifier information and the device information on each printout device from the printing management apparatus 200 through network LAN10 in the above example, An operator inputs the above-mentioned information about two or more printout devices on these networks, and it may be made to register it to the device Research and Data Processing Department, a printing indicating device function part.

[0236]

[Effect of the Invention]As explained above, according to this invention, it becomes possible to switch and use printout devices arranged on the network, such as two or more printers and a copying machine, by easy operation.

[0237]Only by choosing the identifier of a printout device, can perform change directions of the printout device of the printout point, and. Since the navigational panel of printing directions of

the printout device concerned can be called, compared with the case where a user identifies and switches a printer driver according to a printout device like before, switching operation becomes very simple.

[0238]What does not need to change it with a thing [as opposed to the last printout device for setting out] since the last setup information is used and the setup information of the print setting item of a navigational panel is constituted can use the last setup information as it is, and there is an advantage that a re set is unnecessary. Since a standard value is set up automatically, the setup information which is not in last time is dramatically convenient when performing standard use.

[0239]Since it is possible to grasp suitably the state of two or more of these printout devices when switching and using two or more printout devices on a network, it becomes possible to reselect a printout device, if required, or to supply a paper to suitable timing.

[0240]Since the function which two or more printout devices on a network have can be grasped certainly and the user was prevented from carrying out selection setting directions about the function which a printout device does not have, erroneous setting can be prevented certainly.

[Translation done.]

* NOTICES *

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- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a functional block diagram of the whole information processing system containing the 1 embodiment of the printing indicating device by this invention.

[Drawing 2]It is a figure showing the outline of the entire configuration of an information processing system in which this invention is applied.

[Drawing 3]It is a figure for explaining the outline of this invention.

[Drawing 4]It is a flow chart which shows the example of the operation of the device Research and Data Processing Department in the 1 embodiment of this invention.

[Drawing 5]It is a flow chart which shows the example of operation of the output destination change selecting part in the 1 embodiment of this invention.

[Drawing 6]It is a flow chart which shows the example of operation of the output destination change switch portion in the 1 embodiment of this invention.

[Drawing 7]It is a figure showing the example of the printing instructing operation panel in the 1 embodiment of this invention.

[Drawing 8]It is a figure showing the example of the printing instructing operation panel in the 1 embodiment of this invention.

[Drawing 9]It is a figure showing the example of the printing instructing operation panel in the 1 embodiment of this invention.

[Drawing 10]It is a figure showing the example of the printing instructing operation panel in the 1 embodiment of this invention.

[Drawing 11]It is a figure showing the example of the scope in the 1 embodiment of this invention.

[Drawing 12]It is a figure showing the input process table of the directions setting operation section in the 1 embodiment of this invention.

[Drawing 13]It is a flow chart which shows the example of operation of the display control part

in the 1 embodiment of this invention.

[Drawing 14] It is a flow chart for explaining operation of a printing indicating device when a navigational panel is opened in the 1 embodiment of this invention.

[Drawing 15] It is a figure showing the example of output destination change selection / change panel for choosing the printout device in the 1 embodiment of this invention.

[Drawing 16] It is a figure showing the example of the storage format of the device information in the 1 embodiment of this invention.

[Drawing 17] It is a figure showing the example of the registration table of the printout device in the 1 embodiment of this invention.

[Drawing 18] It is a figure showing the example of the list of identifiers of the printout device in the 1 embodiment of this invention.

[Drawing 19] It is a flow chart which shows the example of the acquisition processing of the device information in the 1 embodiment of this invention.

[Drawing 20] It is a flow chart which shows the example of the writing processing to the device information table in the 1 embodiment of this invention.

[Drawing 21] In the 1 embodiment of this invention, it is a figure showing the example of the table about a setting up function.

[Drawing 22] In the 1 embodiment of this invention, it is a figure showing the example of the table where a default value is saved.

[Drawing 23] It is a figure showing the example of the table about the data of the display graphic in the 1 embodiment of this invention.

[Drawing 24] It is a figure showing the example of the control table of the display item in the 1 embodiment of this invention.

[Drawing 25] In the 1 embodiment of this invention, it is a flow chart which shows the example of processing for setting out of fixed display information.

[Drawing 26] It is a figure showing the example of the table which registers the display order of the printout device in the 1 embodiment of this invention.

[Drawing 27] In the 1 embodiment of this invention, it is a table showing the device function analysis processing program registered for every group of data.

[Drawing 28] In the 1 embodiment of this invention, it is a figure showing the example of the table where the display item relevant to function settings was registered.

[Drawing 29] It is a flow chart which shows the example of processing of the device function and state analyzing parts in the 1 embodiment of this invention.

[Drawing 30] In the 1 embodiment of this invention, it is a flow chart which shows the example of processing of the display mode processing program of a paper size.

[Drawing 31] In the 1 embodiment of this invention, it is a flow chart which shows the example of the processing in setting out of variable display information.

[Drawing 32]It is a figure showing the example of output destination change selection / change panel for choosing a printout device in the 1 embodiment of this invention.

[Drawing 33]It is a flow chart of change processing of the printout point of the 1 embodiment of this invention.

[Drawing 34]It is a figure showing the example of the printing instructing operation panel of the 1 embodiment of this invention.

[Drawing 35]It is a figure showing the example of the printing instructing operation panel of the 1 embodiment of this invention.

[Drawing 36]It is a figure showing the table for carrying out the comparison object of drawing 34 and drawing 35.

[Drawing 37]In the 1 embodiment of this invention, it is a flow chart which shows the example of a paper selection button input process.

[Drawing 38]In the 1 embodiment of this invention, it is a flow chart which shows the example of job issue processing.

[Drawing 39]In the 1 embodiment of this invention, it is a flow chart of the processing at the time of updating state information by a user's request.

[Drawing 40]It is a figure for explaining the outline of the conventional printing indicating device.

[Description of Notations]

100 Printing indicating device

101 Device Research and Data Processing Department

102 Output destination change selecting part

103 Output destination change switch portion

104 Device information acquisition section

105 Equipment functions and state analyzing parts

106 Display information formation part

107 Display information preserving part

108 Display control part

109 Display (indicator)

110 Setup information preserving part

111 Default value preserving part

112 Directions setting operation section

121 Printer driver

122 Print-data preserving part

123 Job issuing part

[Translation done.]

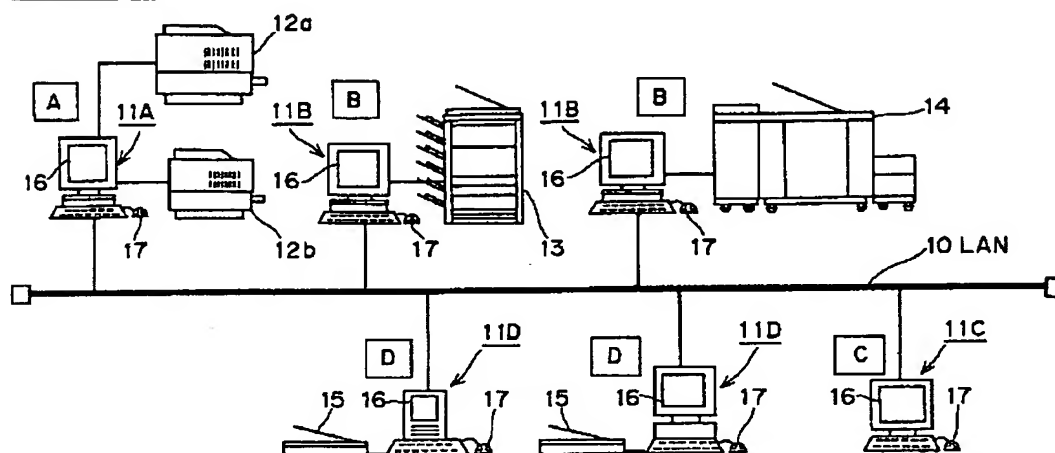
* NOTICES *

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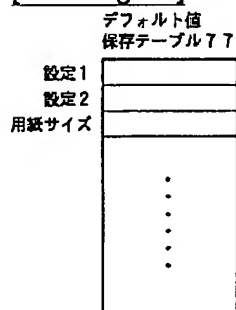
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

[Drawing 2]



[Drawing 22]



[Drawing 26]

一覧表示テーブル 8 1

順 位	登録No.
1	2
2	5
3	1
⋮	⋮
⋮	⋮
⋮	⋮

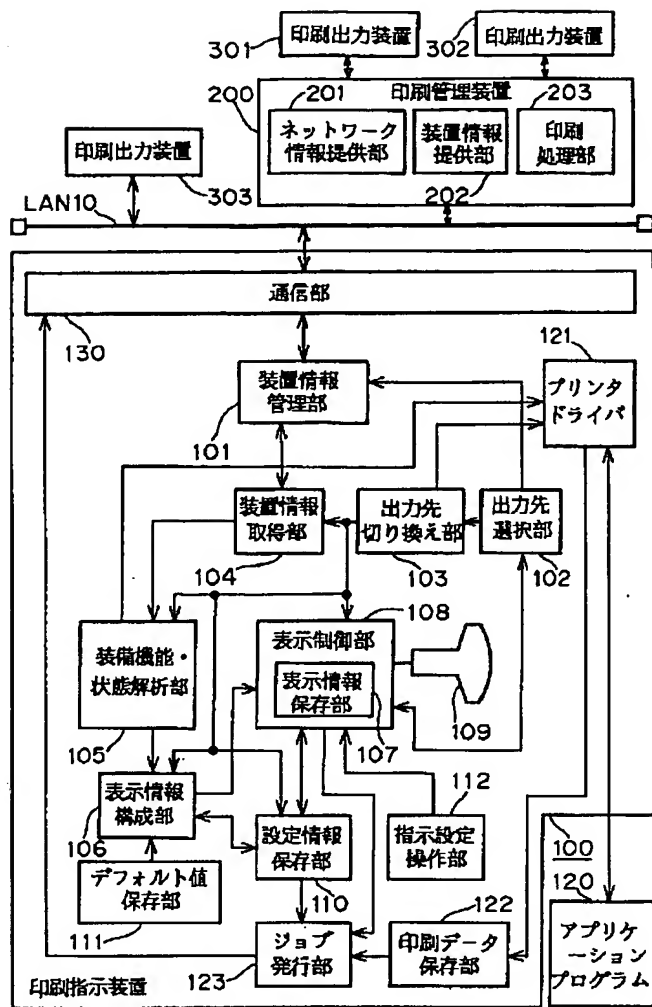
[Drawing 27]機能解析プログラム
インデックステーブル 8 2

機能1
機能2
機能3
用紙選択
⋮
⋮
⋮
⋮
⋮
⋮
⋮

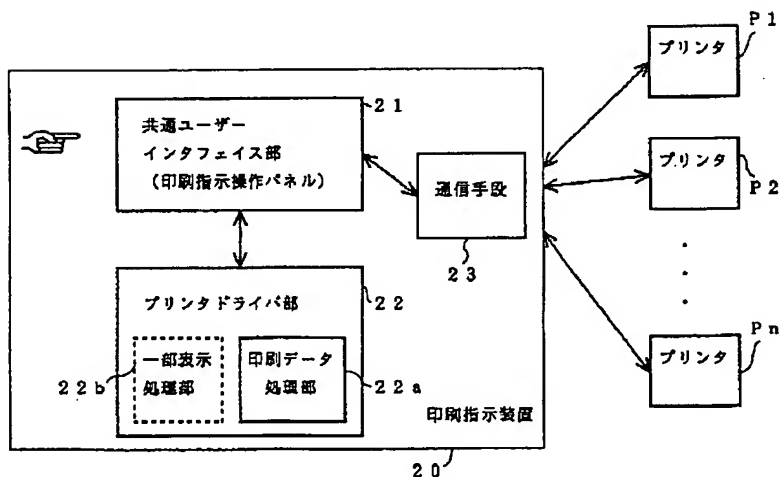
[Drawing 36]

	P o l o - P S	P a r i s - P S
プリンタ状態	稼働中&パスワード入力要求中	稼働中&A4用紙残量少
N i n 1	1 ~ 4	1 ~ 9
排紙トレイ	上面 / H C S / ソータ	上面 / ソータ
給紙用紙サイズ	A 3 / A 4 / B 4 / B 5	A 3 / A 4 / A 6 / B 4

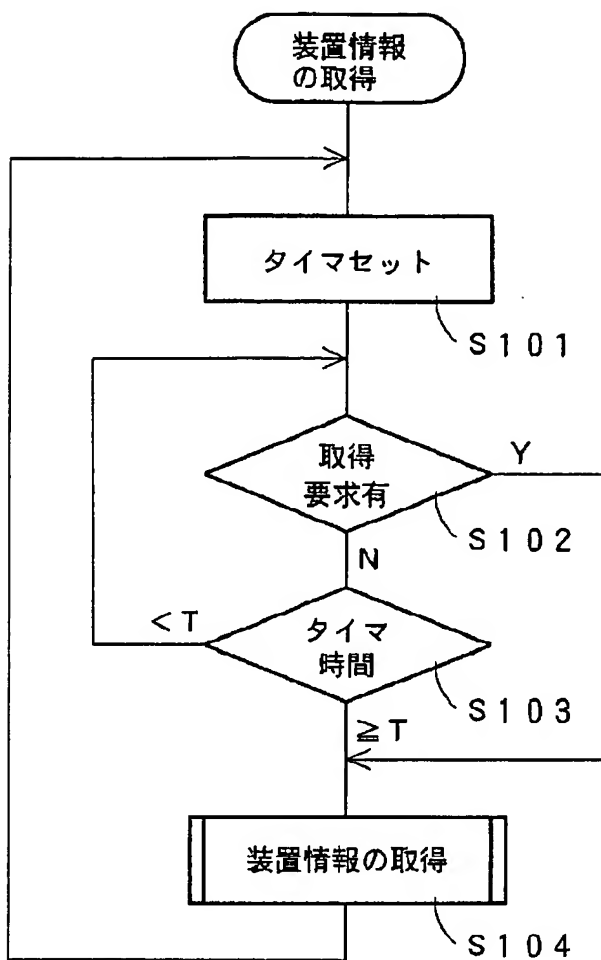
[Drawing 1]



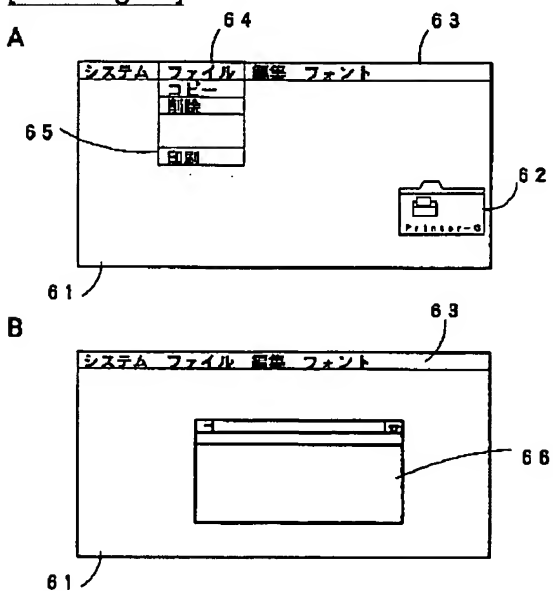
[Drawing 3]



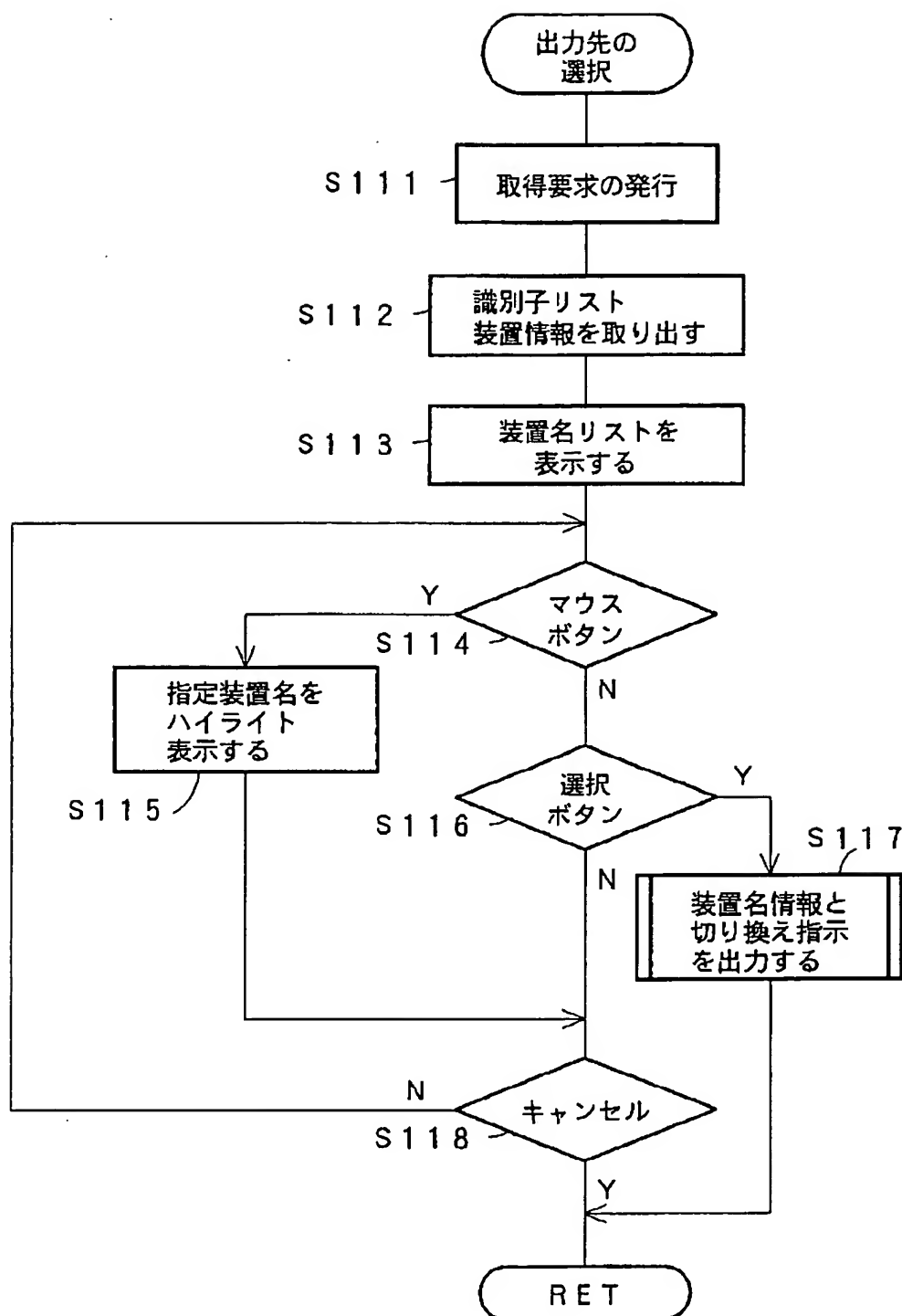
[Drawing 4]



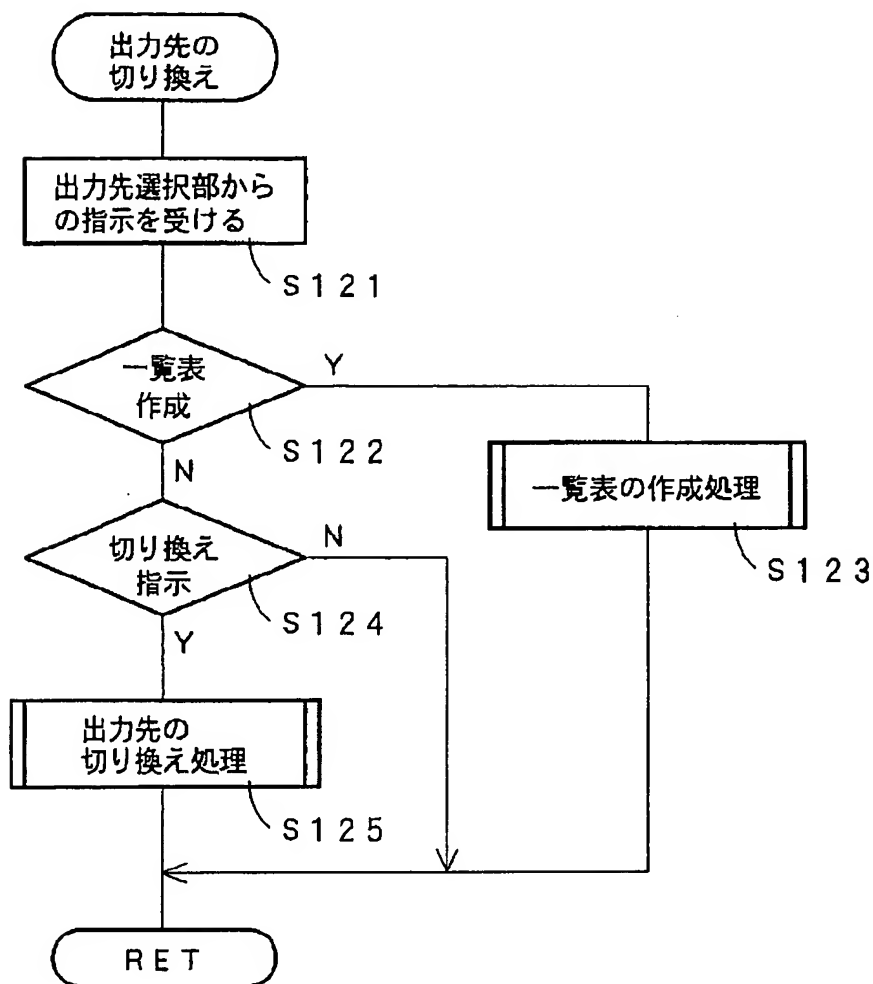
[Drawing 11]



[Drawing 5]



[Drawing 6]



[Drawing 7]

DPS Client

35 ファイル(F) ジョブ(J) 表示(V) 設定(S) ヘルプ(H)

36 プリントできます。

部数 1 部

面指定

☐ 両面印刷

☐ 長辺とじ

☐ 短辺とじ

とじ方向

☒ 左とじ

☐ 右とじ

☐ 上とじ

☐ 下とじ

とじ代: 0 mm

用紙サイズ

☒ A4

☐ Letter

☐ B4

☐ A3

縮小/拡大

任意

☒ 100%

☐ 70%

☐ 81%

☐ 86%

☐ 115%

☐ 122%

☐ 141%

等倍

A3 → A4

B4 → B5

B4 → A4

A4 → B5

A3 → B4

B5 → A4

B4 → A3

A4 → B4

B3 → B4

A4 → A3

アウトワーク

☒ T合い

☐ リネ

☒ トプハイ

☐ 大容量リネ

☐ 1/2倍スキャン

☐ グラフ単位

☐ グラフコピー単位

☐ ドキュメント単位

ToolG-TOSA

基本

その他

一覧

31

31a

33

ファイル名

ジョブID

ファイル名

プリンター名

状態

中止/削除

開始

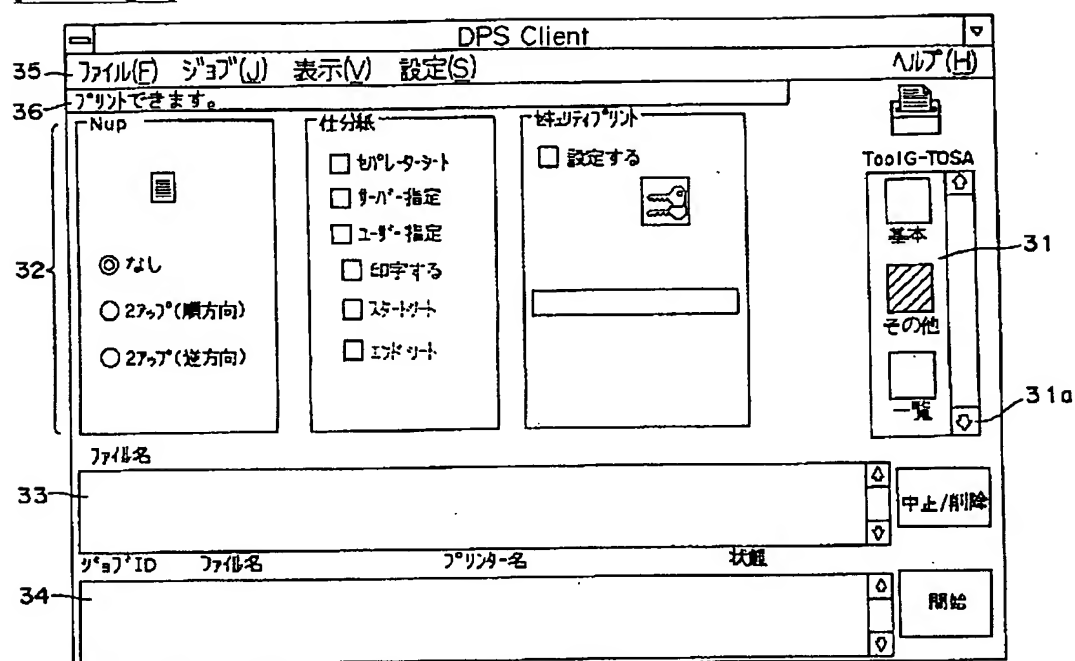
34

[Drawing 12]

画面入力処理テーブル 71

領域		座標1	座標2	処理プログラム名	有効フラグ
No					
⋮	⋮	⋮	⋮	⋮	⋮
k 1	(x1, y1)	(x2, y2)		操作パネル open	0
k 2	(x3, y3)	(x4, y4)		操作パネル close	1
k 3	(x5, y5)	(x6, y6)		プリンタ 切り換え	1
⋮	⋮	⋮	⋮	⋮	⋮

[Drawing 8]



[Drawing 9]

DPS Client

35 ファイル(F) ジョブ(J) 表示(V) 設定(S) ヘルプ(H)

36 プリントできます。

部数: 1 部 両面指定: ☐ 両面印刷 フォント: ☒ 丁合い

用紙サイズ: ☒ A4 ☐ Letter ☐ B4 ☐ A3 両辺とじ: ☐ 長辺とじ ☐ 短辺とじ 大容量スキャナ: ☐ トリム ☐ リネ

縮小/拡大: 95 % とじ方向: ☒ 左とじ ☐ 右とじ ☐ 上とじ ☐ 下とじ

☐ 設定する とじしろ: 14 mm 仕分紙: ☐ 標準用紙 ☐ ユーザ指定 ☐ エンボ用紙

ファイル名

33 中止/削除

34 ジョブID ファイル名 プリンター名 状態 開始

ToolG-TOSA

基本

その他

一覧

31

31a

[Drawing 10]

DPS Client

35 ファイル(F) ジョブ(J) 表示(V) 設定(S) ヘルプ(H)

36 プリントできます。

32

フィニッシング

☒ あり ☐ 無本 ☒ 折り止め

☐ 左とじ ☒ 左上一カ所 ☐ 右上一カ所

☐ 右とじ ☐ 左二カ所 ☐ 右二カ所

☐ 左下一カ所 ☐ 右下一カ所

ファイル名

33 中止/削除

34 ジョブID ファイル名 プリンター名 状態 開始

ToolG-TOSA

その他

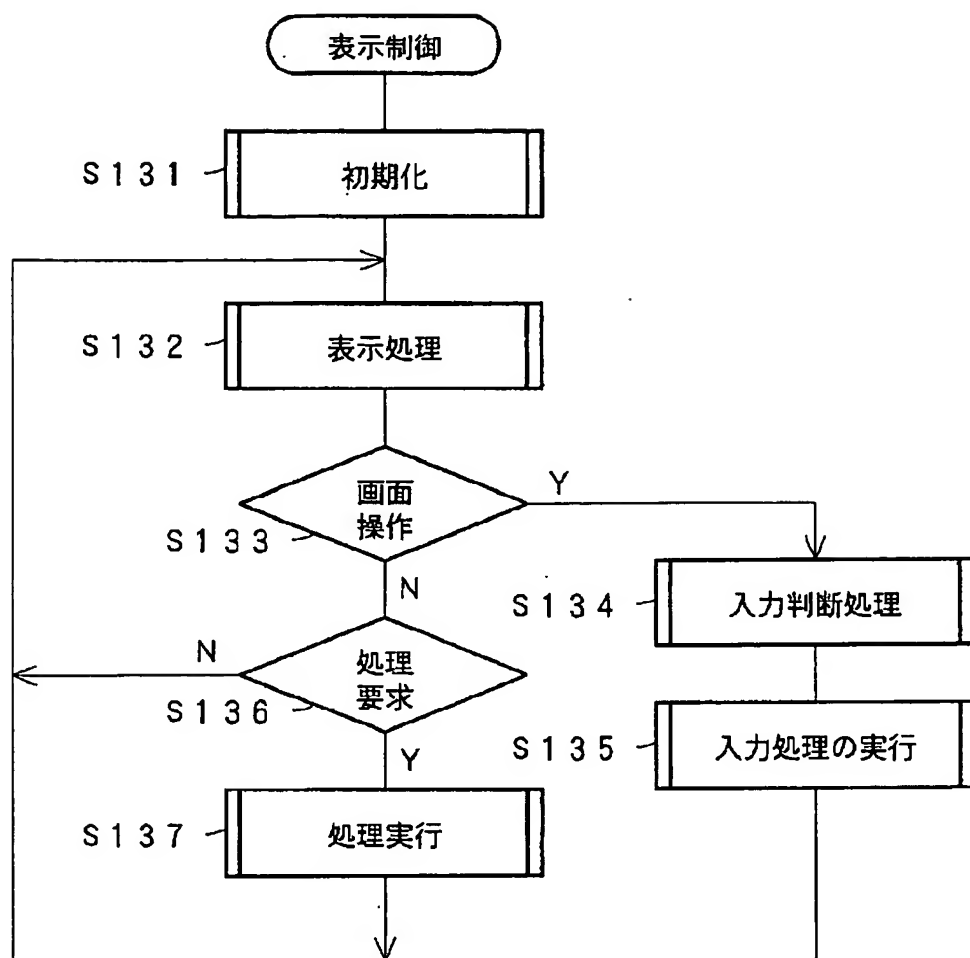
一覧

フィニッシング

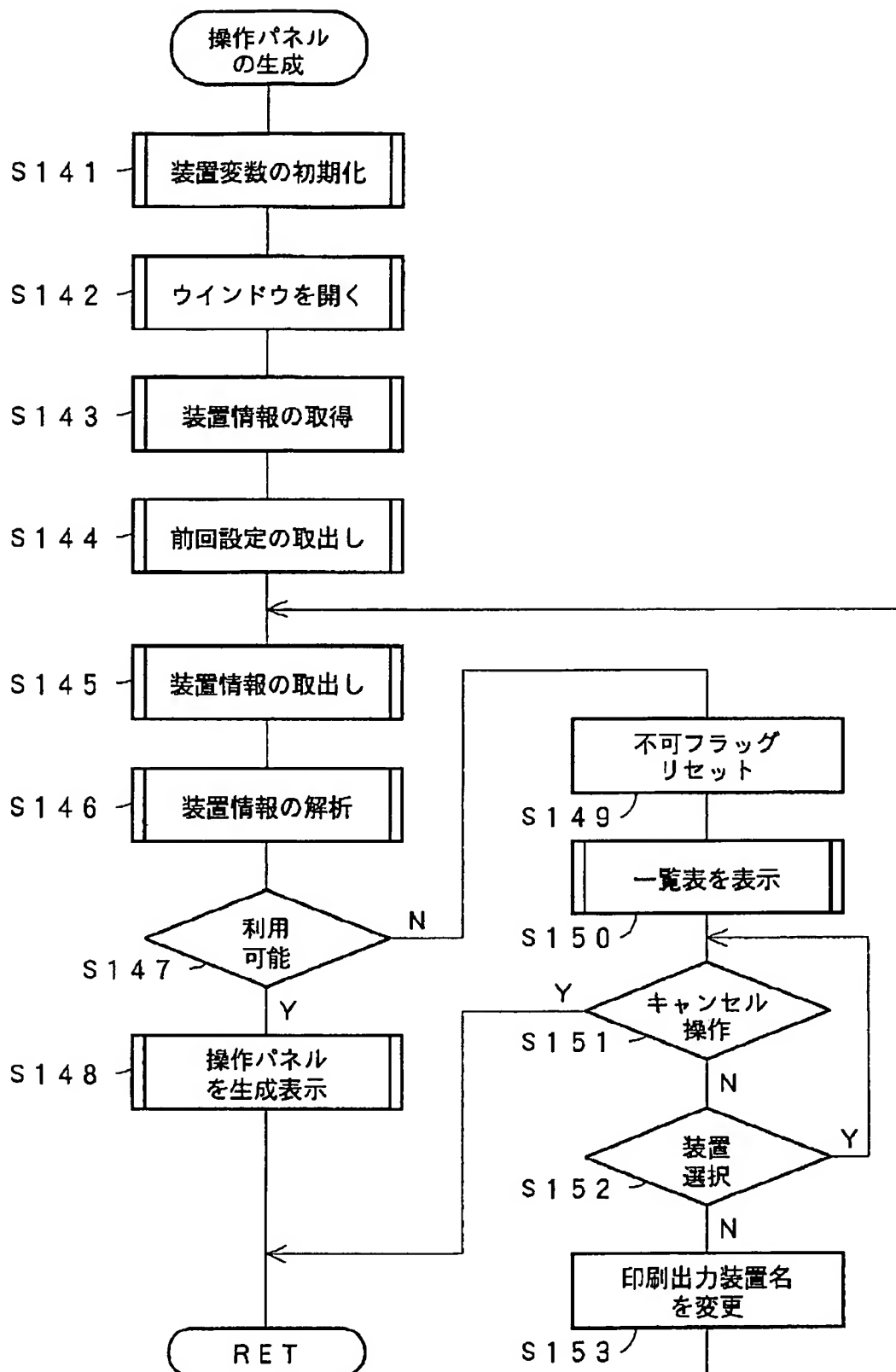
31

31a

[Drawing 13]







[Drawing 14]



[Drawing 15]

出力先選択/切替パネル

名前	状態	ジョブ数
 Printer-A	待機(A3,A4)	2
 Printer-B	待機(A4,B4)	5
 Printer-C	停止	-
 Printer-D	紙切れ(B4,B5)	0

選択 キャンセル

表示オプション

[Drawing 16]

装置情報インデックス
テーブル73装置情報
テーブル72

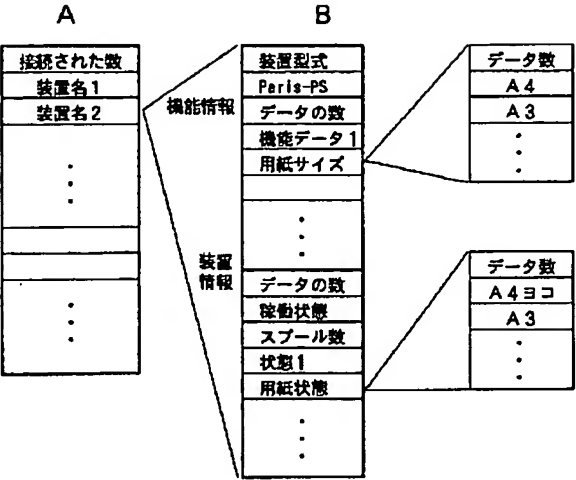
機能情報	型式	ADR1	Polo-PS	ドライバ名
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	用紙サイズ		1	85 %
	⋮		0	70 %
	⋮		⋮	
状態情報	縮刷状態		⋮	
	ジョブ数		0	用紙サイズ B 3
	用紙枚数		0	B 4
	⋮		0	A 5
	⋮		1	A 5
			1	A 5
			0	特殊1
			⋮	縦サイズ
			⋮	横サイズ
			A 4	
			1 5 0	用紙枚数
			A 3	
			⋮	
			⋮	

[Drawing 17]

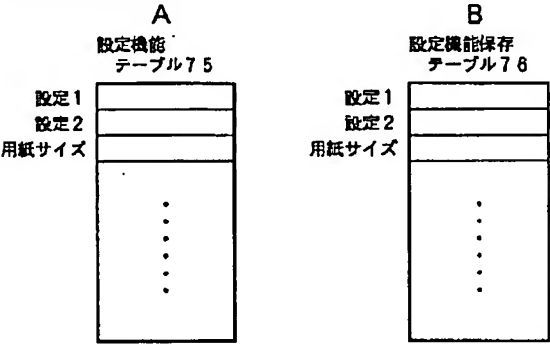
印刷出力装置登録テーブル74

登録No	装置名	装置情報テーブルアドレス	使用日時	使用回数
1	Fukki	ADR8	95/3/5	23
2	Polo-PS	ADR1	95/3/15	31
3	Paris-PS	ADR23	95/10/17	12
...
...
...
...

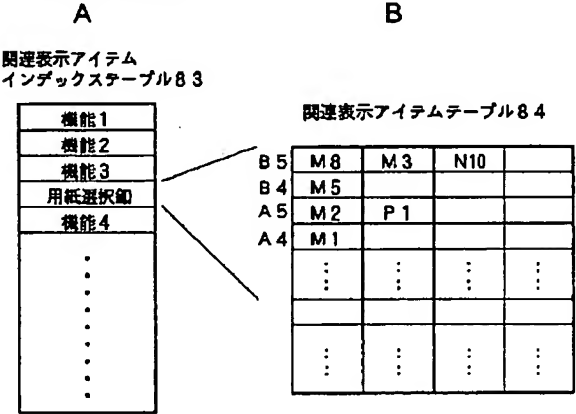
[Drawing 18]



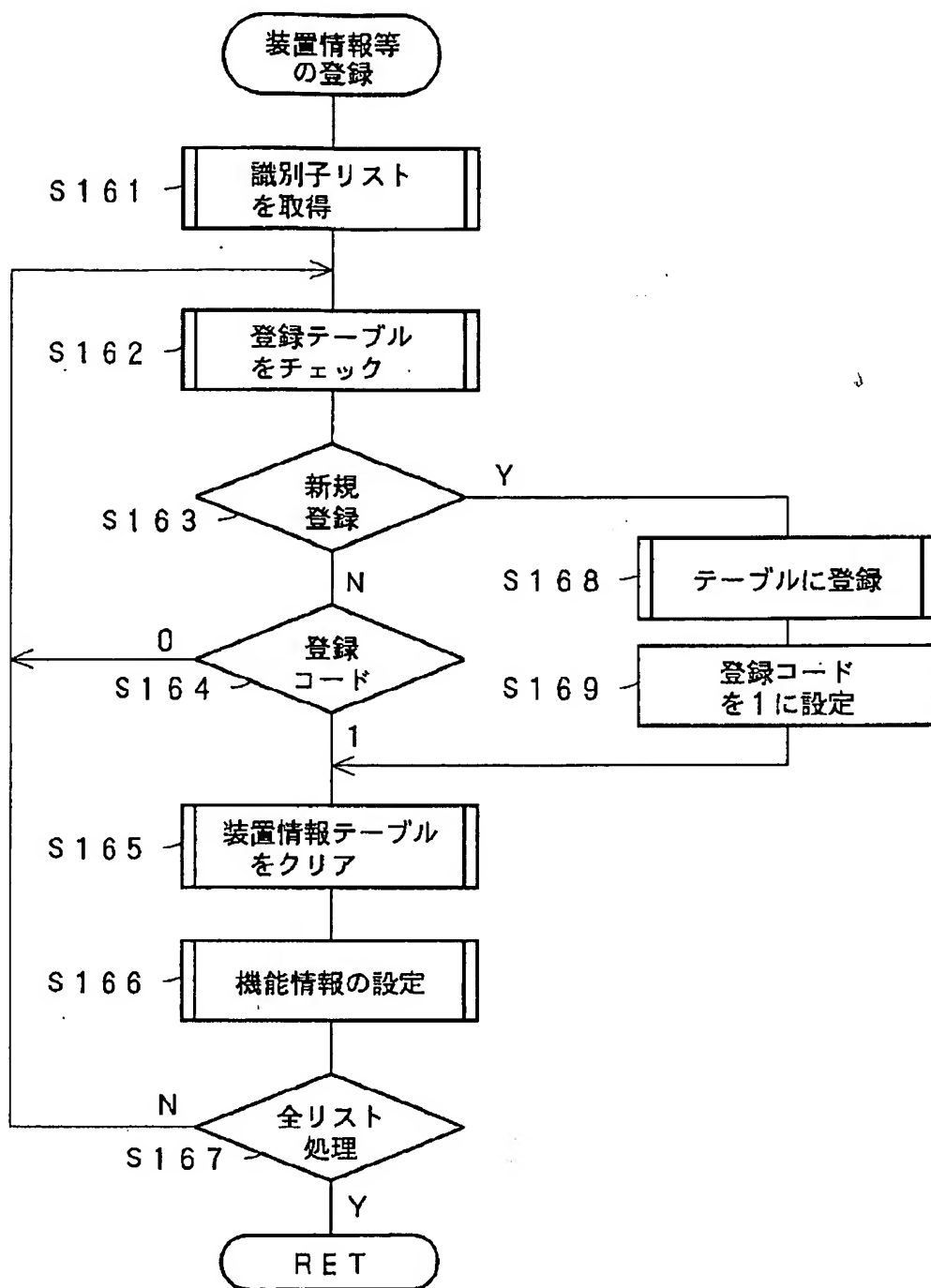
[Drawing 21]



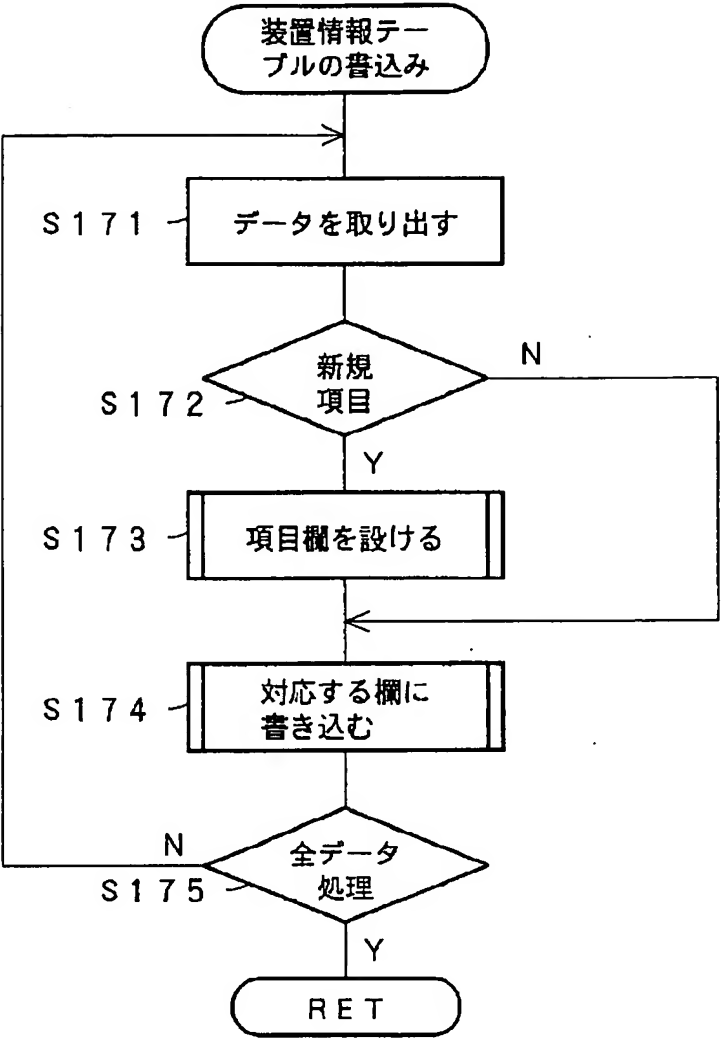
[Drawing 28]



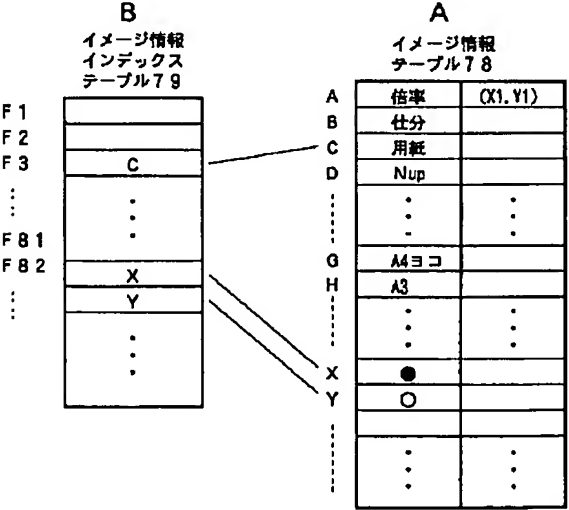
[Drawing 19]



[Drawing 20]



[Drawing 23]



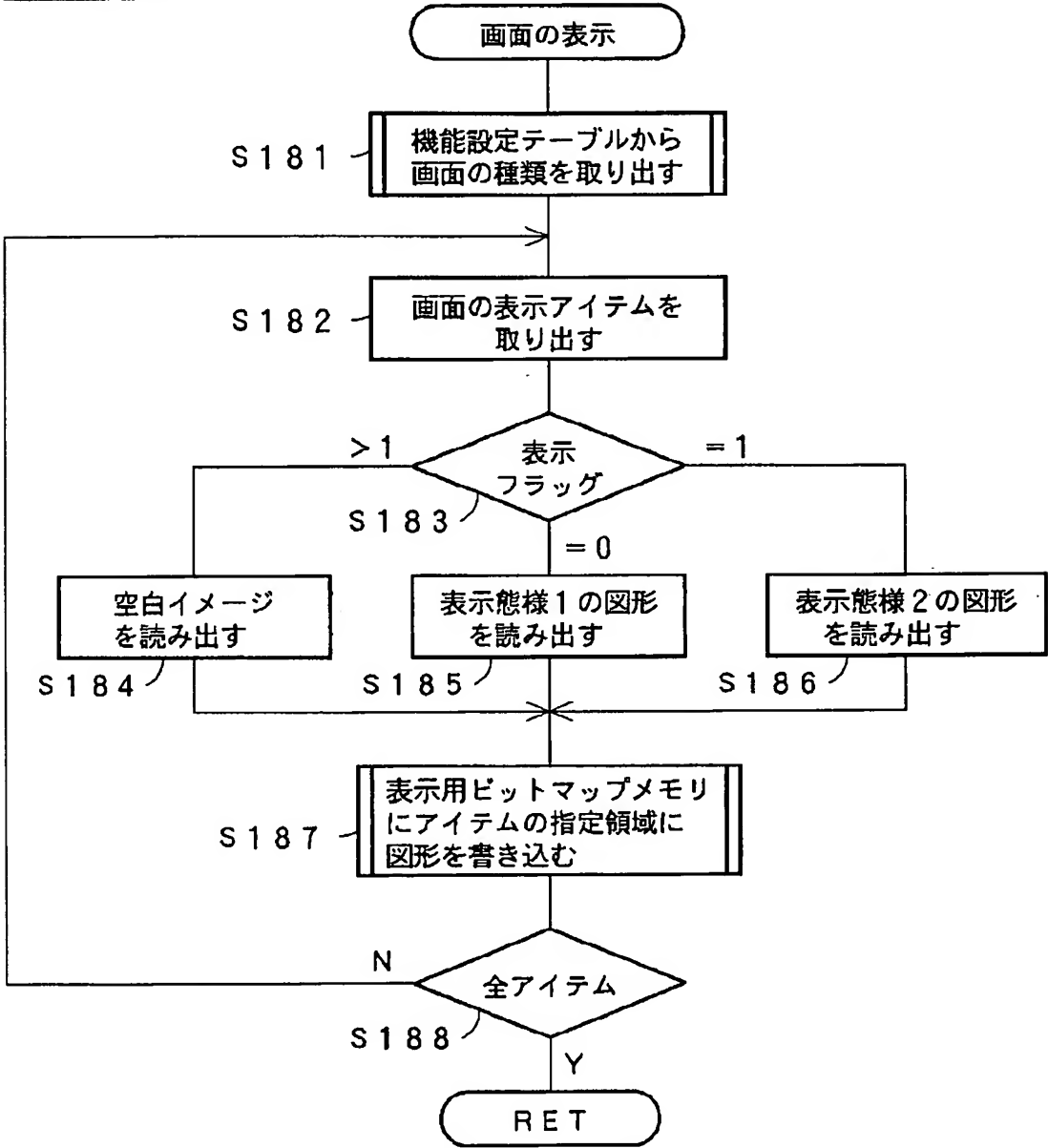
[Drawing 24]

表示アイテム制御テーブル 80

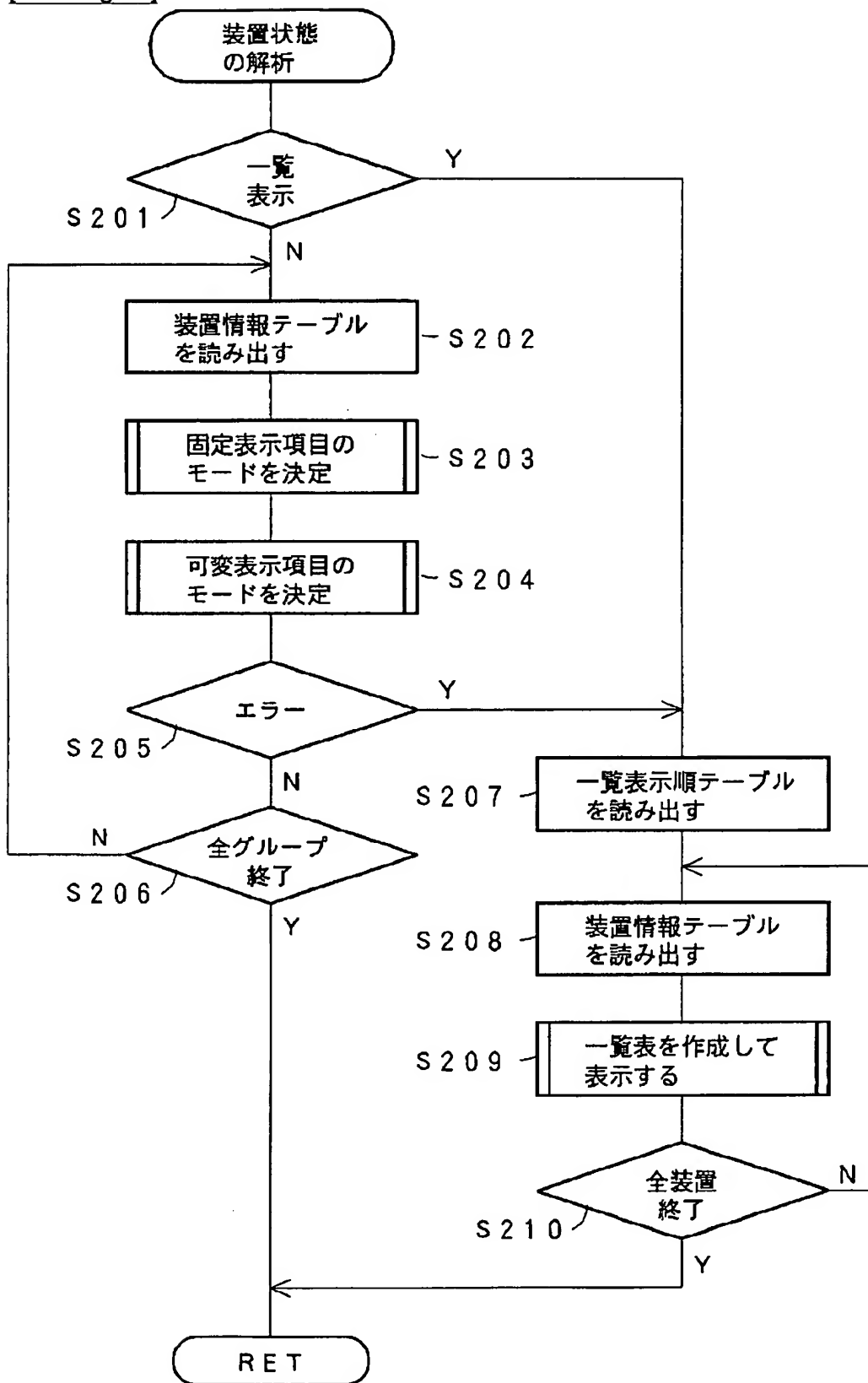
アイテム No	表示 フラグ	表示態様1			表示態様2		
M1	1	F3	F10	.....	F53		.....
M2	0	F1		.....	F51		.....
M3	1	F81		.....	F82	F12	.....
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
N1		F81		.....			.....
N2		F82		.....			.....
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
M1	1	F53	F53	.....	F53		.....
M1	1	F53	F53	.....	F53		.....
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
S1	⋮	⋮	⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

基本
その他
一覧
特殊

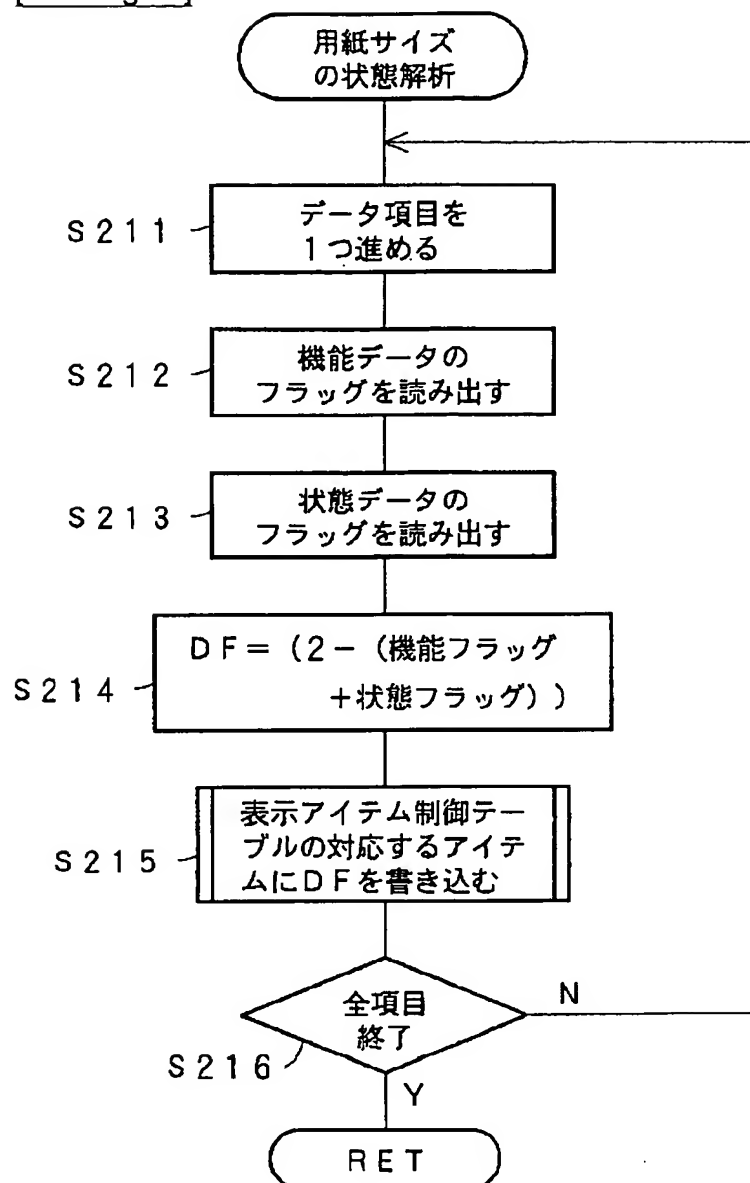
[Drawing 25]



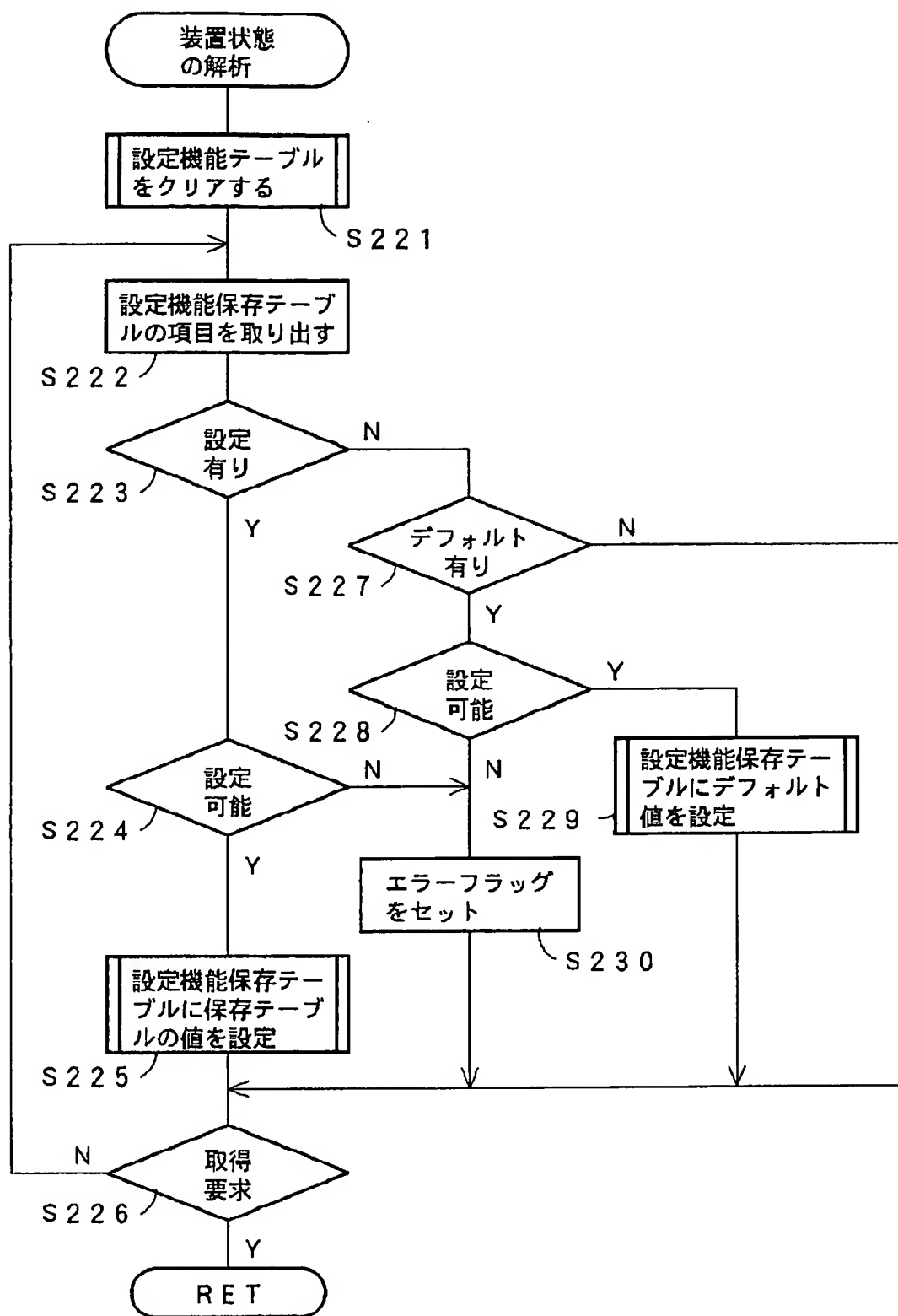
[Drawing 29]



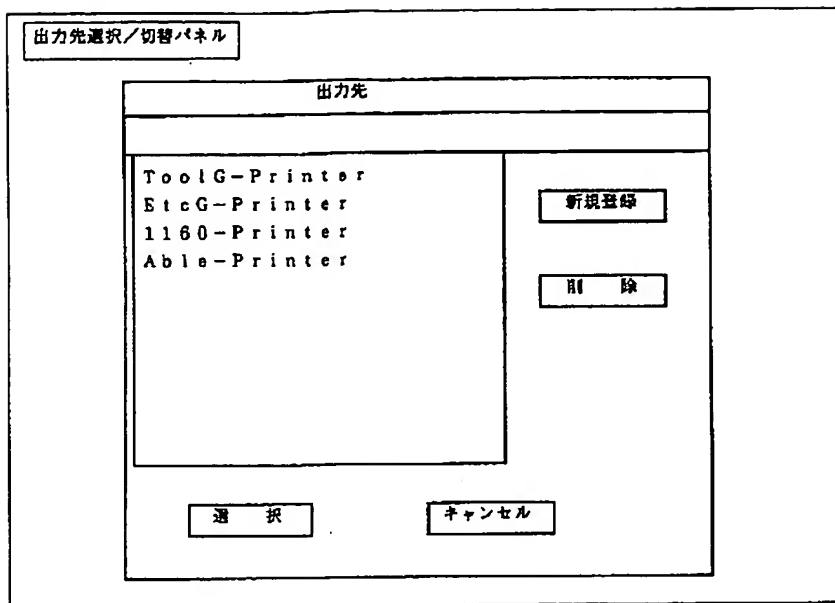
[Drawing 30]



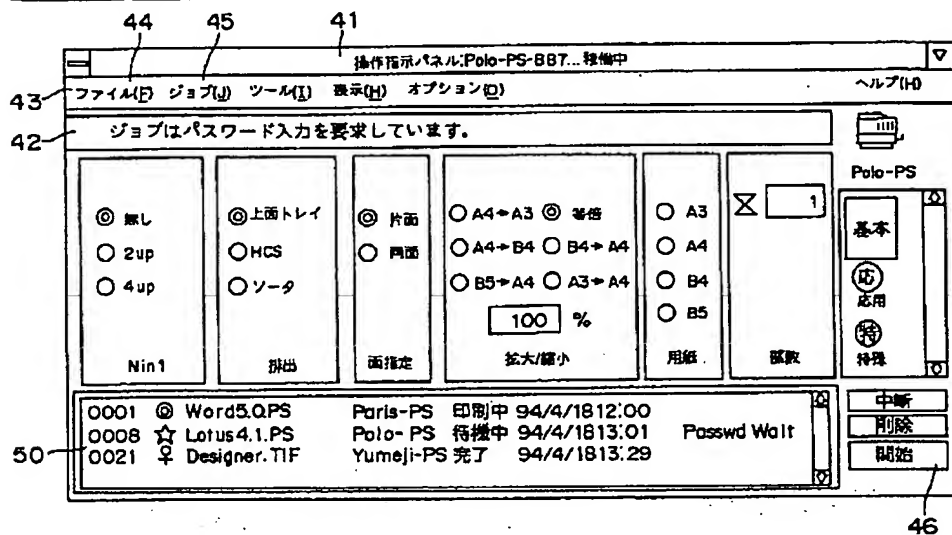
[Drawing 31]



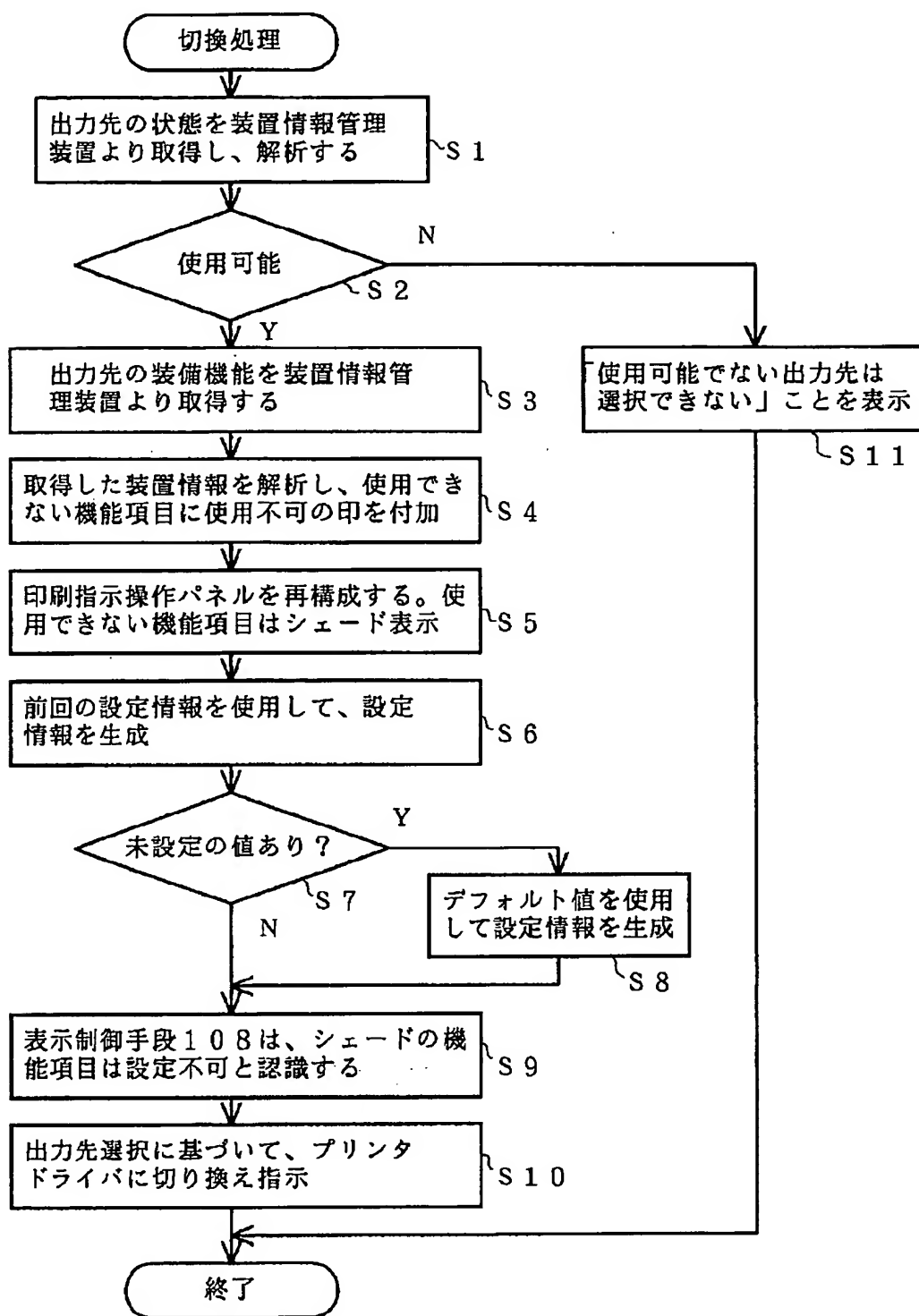
[Drawing 32]



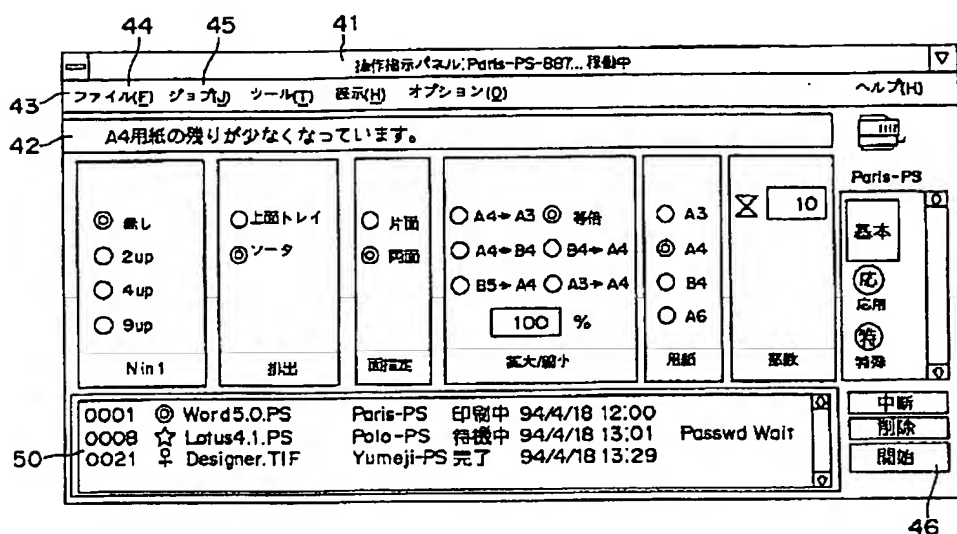
[Drawing 34]



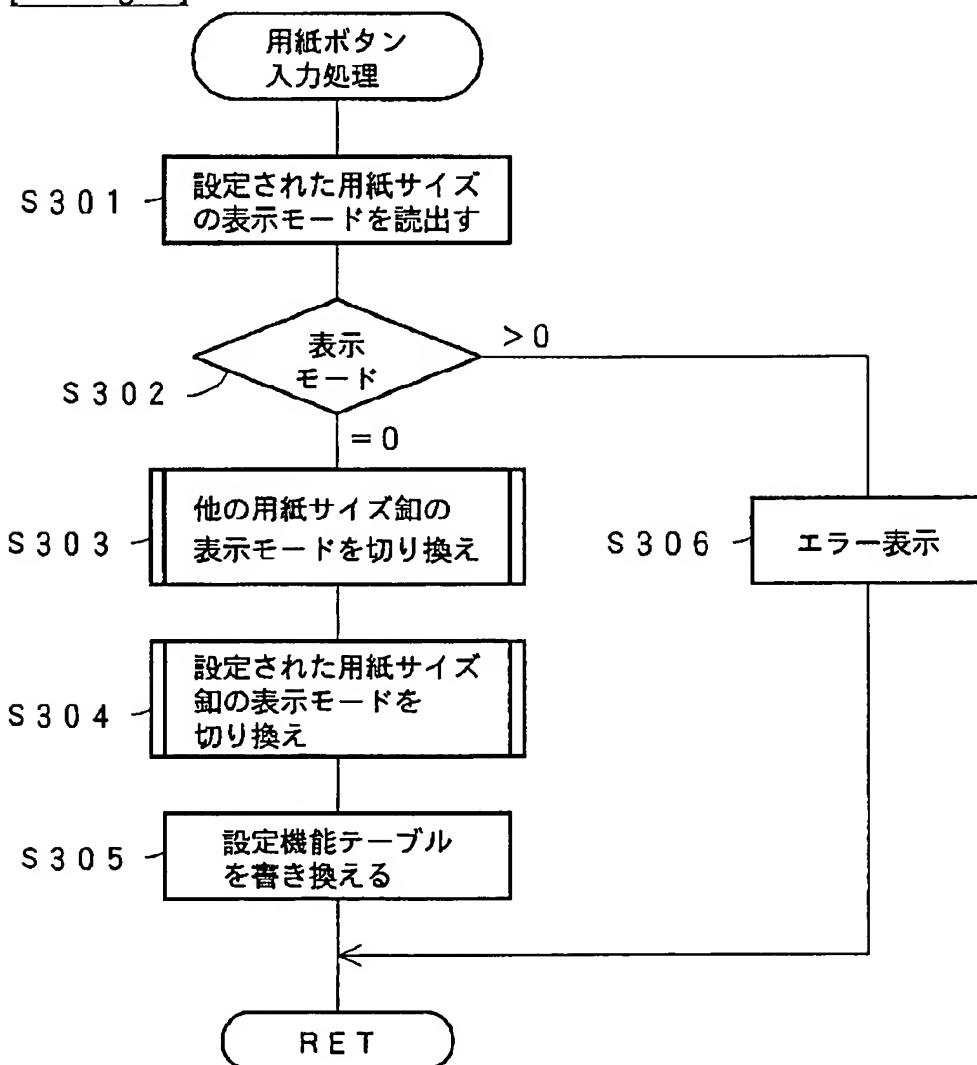
[Drawing 33]



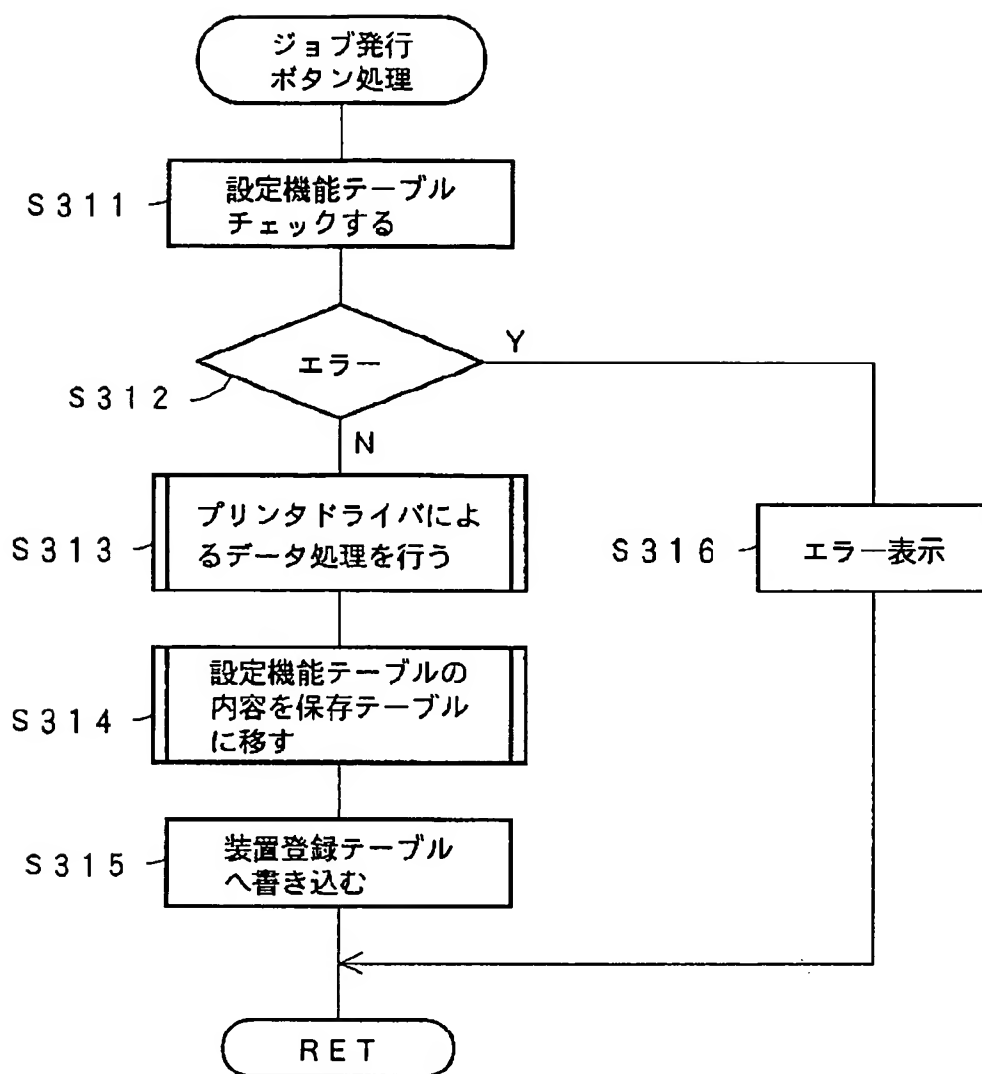
[Drawing 35]



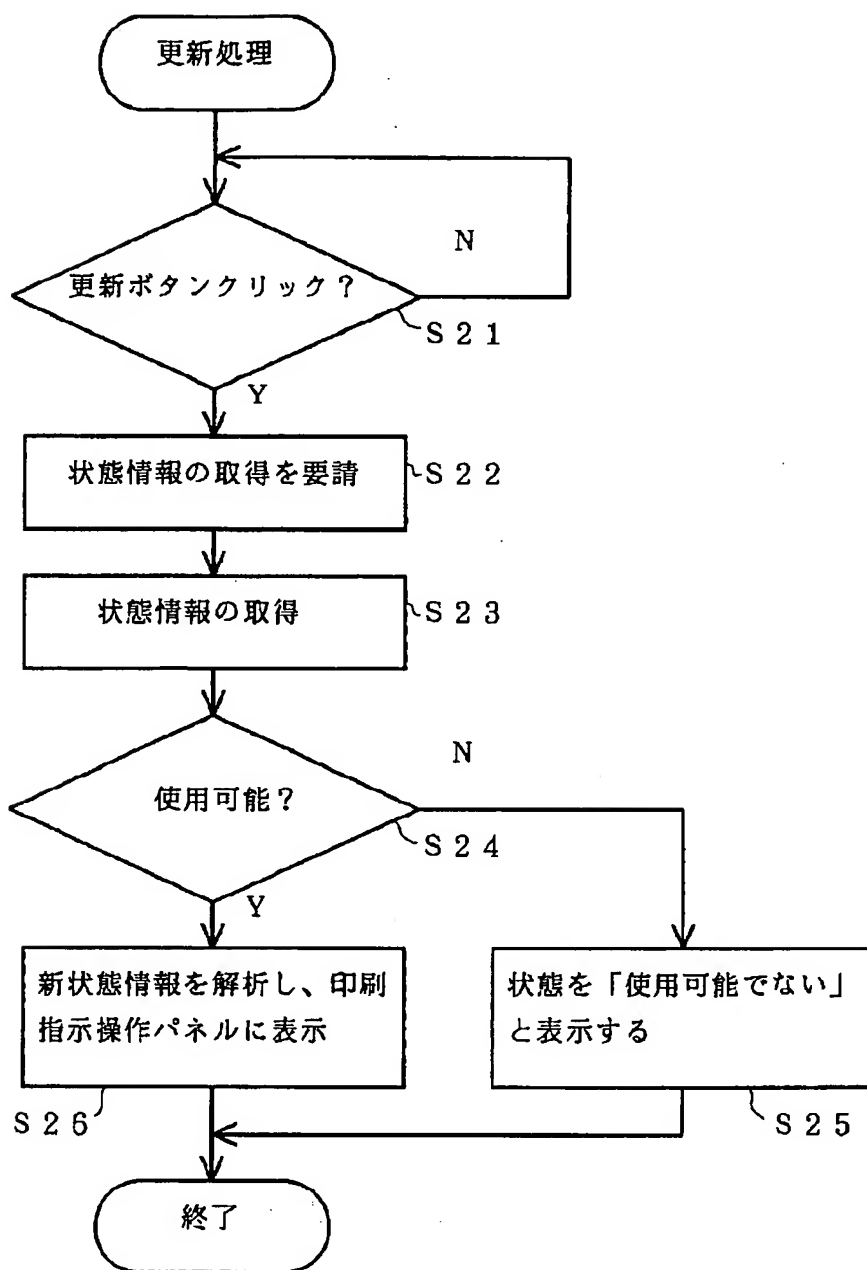
[Drawing 37]



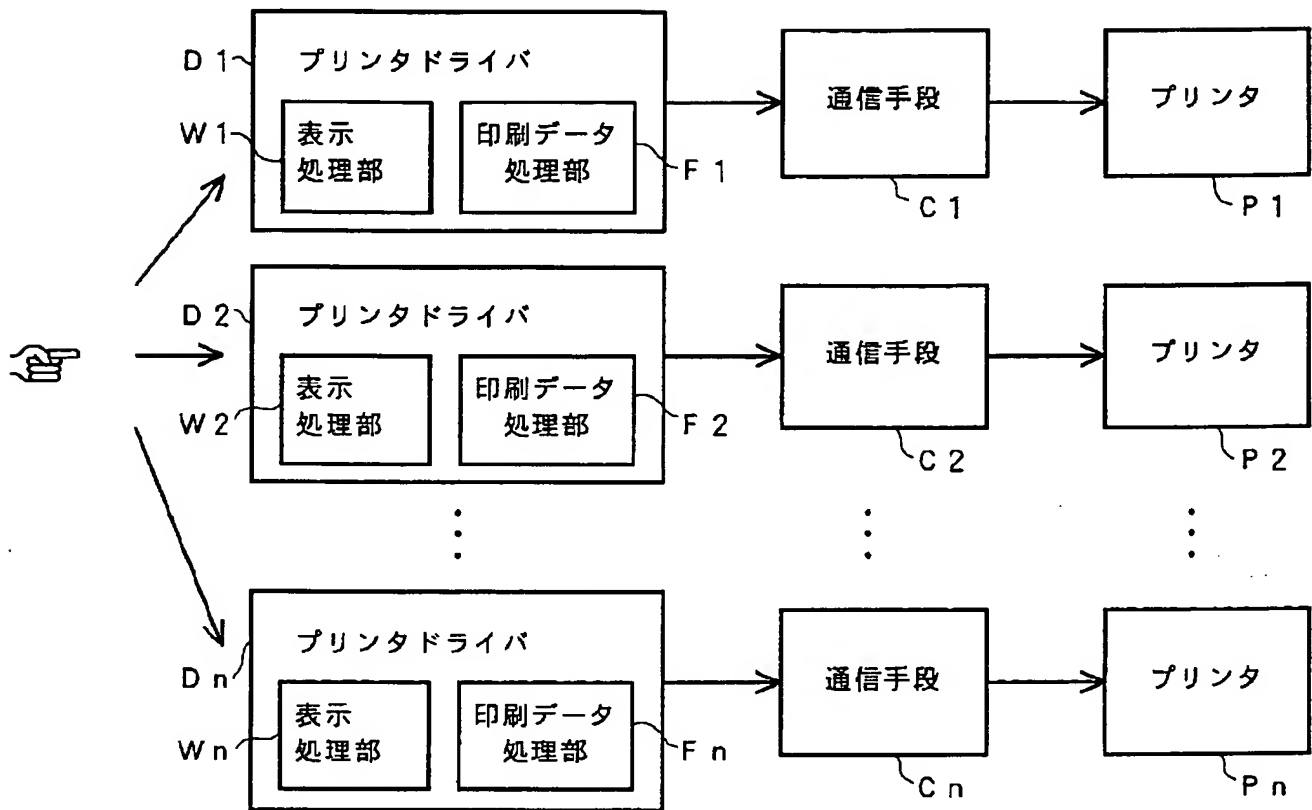
[Drawing 38]



[Drawing 39]



[Drawing 40]



[Translation done.]

* NOTICES *

JP0 and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

WRITTEN AMENDMENT

----- [Written amendment]

[Filing date]June 25, Heisei 8

[Amendment 1]

[Document to be Amended]Specification

[Item(s) to be Amended]Claim

[Method of Amendment]Change

[Proposed Amendment]

[Claim(s)]

[Claim 1]It is a printing indicating device which performs printing directions through a display screen to a printout device which it was connected to a communication network and chosen from two or more printout means on said communication network,

A device information control means which manages each device information on two or more printout devices on said communication network,

An output destination change selecting means which chooses from among printout devices on said communication network a printout device made into the printout point,

A display information generation means which generates display information on a printing instructing operation panel for acquiring device information on a printout device chosen from said device information control means as said output destination change based on selection by said output destination change selecting means, and setting up printing directions information over the printout device concerned,

A displaying means provided with said display screen,

A display control means which displays said printing instructing operation panel generated by said display information generation means on a display screen of said displaying means based on selection by said output destination change selecting means, and receives setting out of

said printing directions information,

A print-data processing means to have a print-data treating part which processes print data so that it may correspond to each of two or more printout devices on said communication network, and to process print data based on selection by said output destination change selecting means by a print-data treating part corresponding to said selected printout device,

While having a job issuing means which publishes a print job including print data and said printing directions information over said set-up selected printout device from said print-data processing means to said selected printout device,

Said device information includes information about a function of pretreatment of said printout device of a printing job, and/or post-processing,

A printout device selected by said output destination change selecting means said display information generation means, A display which makes said function usable when it has a function of said pretreatment and/or post-processing, A printing indicating device generating display information on a printing instructing operation panel which includes a display which makes said function impossible [use] when it does not have a function of said pretreatment and/or post-processing, respectively.

[Claim 2]Said print-data processing means is provided with a print-data treating part corresponding to two or more printout devices of a different kind, The printing indicating device according to claim 1 switching to a print-data treating part corresponding to said selected printout device based on selection by said output destination change selecting means, and processing print data.

[Claim 3]It is a printing indicating device which performs printing directions through an operation screen of a display to a printout device selected from two or more printout devices in which an output of information on a self-device is possible,

A device information acquisition means which acquires device information on said two or more printout devices,

Device information on said selected printout device is acquired from this device information acquisition means, Inside of two or more display items for said printing directions in a standard operation screen beforehand prepared based on the acquired device information, A printing indicating device provided with a means to generate an operation screen which changed a display mode of a display item about a function with which said selected printout device is not provided with a display mode of a display item about a function which it has.

[Claim 4]In the printing indicating device according to claim 3,

A printing indicating device provided with a means to generate said standard operation screen which has a display item required for printing directions of said printout device based on device information on said two or more printout devices acquired by said device information acquisition means.

[The amendment 2]

[Document to be Amended]Specification

[Item(s) to be Amended]0019

[Method of Amendment]Change

[Proposed Amendment]

[0019]

[Means for Solving the Problem]If a printing indicating device by invention of claim 1 makes a reference mark of a functional block of an example of below-mentioned drawing 1 correspond, It is a printing indicating device which performs printing directions through a display screen to a printout device which it was connected to a communication network (10) and chosen from two or more printout devices (301-303) on said communication network, A device information control means (101) which manages each device information on two or more printout devices on said communication network, An output destination change selecting means (102) which chooses one of printout devices on said communication network as the printout point, Based on selection by said output destination change selecting means, device information on a printout device chosen from said device information control means as said output destination change is acquired, A display information generation means (104, 105, 106) which generates display information on a printing instructing operation panel for setting up printing directions information over the printout device concerned, A displaying means (109) provided with said display screen, and a display control means (108) which displays said printing instructing operation panel generated by said display information generation means on a display screen of said displaying means based on selection by said output destination change selecting means, and receives setting out of said printing directions information, It has a print-data treating part which processes print data so that it may correspond to each of two or more printout devices on said communication network, A print-data processing means (printer driver 121 of drawing 1) to process print data based on selection by said output destination change selecting means by a print-data treating part corresponding to said selected printout device, Have a job issuing means (123) which publishes a print job including print data and said printing directions information over said set-up selected printout device from said print-data processing means to said selected printout device, said device information Said printout device, Including information about a function of pretreatment of a printing job, and/or post-processing, said display information generation means, A display which it gives usable for said function when a printout device selected by said output destination change selecting means is provided with a function of said pretreatment and/or post-processing, Display information on a printing instructing operation panel which includes a display given impossible [use of said function] when it does not have a function of said pretreatment and/or post-processing, respectively is generated.

[Amendment 3]

[Document to be Amended]Specification

[Item(s) to be Amended]0021

[Method of Amendment]Change

[Proposed Amendment]

In the printing indicating device by the invention according to claim 3, It is a printing indicating device which performs printing directions through the operation screen of a display to the printout device selected from two or more printout devices in which an output of the information on a self-device is possible, The device information acquisition means (104) which said printout device is connected and acquires the device information on this connected printout device, The device information on said selected printout device is acquired from this device information acquisition means (104), The inside of two or more display items for said printing directions in the standard operation screen beforehand prepared based on the acquired device information, With the display mode of the display item about a function provided with the display mode of the display item about the function with which said selected printout device is not provided, it has a means (106) to generate the changed operation screen, and operation using a common operation screen is enabled to each printout device.

[Amendment 4]

[Document to be Amended]Specification

[Item(s) to be Amended]0022

[Method of Amendment]Change

[Proposed Amendment]

[0022]In the printing indicating device by the invention according to claim 4, Based on the device information on said connected printout device which was acquired by said device information acquisition means (104) in addition to the requirements for the invention according to claim 3, It has a means (106) to generate said standard operation screen which has a display item required for printing directions of said connected printout device.

[Amendment 5]

[Document to be Amended]Specification

[Item(s) to be Amended]0023

[Method of Amendment]Deletion

[Amendment 6]

[Document to be Amended]Specification

[Item(s) to be Amended]0024

[Method of Amendment]Deletion

[Amendment 7]

[Document to be Amended]Specification

[Item(s) to be Amended]0025

[Method of Amendment]Deletion

[Amendment 8]

[Document to be Amended]Specification

[Item(s) to be Amended]0026

[Method of Amendment]Deletion

[Amendment 9]

[Document to be Amended]Specification

[Item(s) to be Amended]0027

[Method of Amendment]Deletion

[Amendment 10]

[Document to be Amended]Specification

[Item(s) to be Amended]0028

[Method of Amendment]Deletion

[Amendment 11]

[Document to be Amended]Specification

[Item(s) to be Amended]0031

[Method of Amendment]Change

[Proposed Amendment]

[0031]Namely, a user is an output destination change selecting means, chooses the printout device of hope from among two or more printout devices on a network, and only performs a predetermined setting input and printing instruction request operation through a printing instructing operation panel, Two or more printout devices on a network can be switched easily, and can be used. And in the display screen top of the printing indicating device which the user uses, When the printout device on the selected network can check whether the finishing treatment as post-processing of printing is possible, for example and has a finishing treatment function, the finishing treatment function concerned becomes usable from a remote position.

[Amendment 12]

[Document to be Amended]Specification

[Item(s) to be Amended]0033

[Method of Amendment]Change

[Proposed Amendment]

[0033]About the display item about the function with which the selected printout device is not provided out of the display item of the standard operation screen prepared beforehand in the printing indicating device of claim 3.With the display item about a function provided with the display mode, since it was made to change, the user can perform operator guidance using a common operation screen to each printout device fundamentally.

[Amendment 13]

[Document to be Amended]Specification

[Item(s) to be Amended]0034

[Method of Amendment]Change

[Proposed Amendment]

[0034]Since the device information on each printout device connected to the printing indicating device concerned is acquired and the standard operation screen in the invention of claim 3 is generated in the printing indicating device of claim 4 based on the acquired device information, It becomes unnecessary beforehand, to set up a standard operation screen based on the equipment functions of the printout device connected to a printing indicating device.

[Amendment 14]

[Document to be Amended]Specification

[Item(s) to be Amended]0035

[Method of Amendment]Deletion

[Amendment 15]

[Document to be Amended]Specification

[Item(s) to be Amended]0036

[Method of Amendment]Deletion

[Amendment 16]

[Document to be Amended]Specification

[Item(s) to be Amended]0037

[Method of Amendment]Deletion

[Amendment 17]

[Document to be Amended]Specification

[Item(s) to be Amended]0038

[Method of Amendment]Deletion

[Amendment 18]

[Document to be Amended]Specification

[Item(s) to be Amended]0039

[Method of Amendment]Deletion

[Amendment 19]

[Document to be Amended]Specification

[Item(s) to be Amended]0040

[Method of Amendment]Deletion

[Translation done.]